Coronis 5MP Mammo

Installation & User Manual

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Preface

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Notice

Although every attempt has been made to achieve technical accuracy in this document, we assume no responsibility for errors that may be found. Our goal is to provide you with the most accurate and usable documentation possible; if you discover errors, please let us know.

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FCC Compliance Information (display)

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and

on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Canadian notice

This ISM device complies with Canadian ICES-001.

Cet appareil ISM est conforme à la norme NMB-001 du Canada.

Disposal Information

The lamps inside the display contain mercury. Do not throw the display in the trash. Dispose of it as required by local ordinances or regulations.

Safety Instructions

General Recommendations

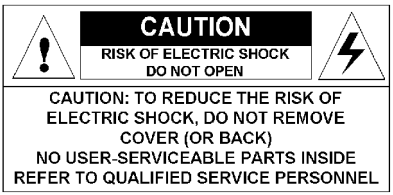
Read the safety and operating instructions before operating the display.

Retain safety and operating instructions for future reference.

Adhere to all warnings on the display and in the operating instructions manual.

Follow all instructions for operation and use.

Electrical shock



Type of protection (electrical):

Class I equipment

Degree of safety (flammable anesthetic mixture):

Equipment not suitable for use in the presence of a flammable anesthetic mixture with air or with oxygen or nitrous oxide.

Power connection

- This apparatus must be earthed.
- Power requirements: The display must be powered by the AC mains voltage.
- Power cords:

Utilize a UL-listed detachable power cord, 3-wire, type SJ or equivalent, 18 AWG min., rated 300 V min., provided with a

hospital-grade type plug 5-15P configuration for 120V application, or 6-15P for 240V application.

- Do not overload wall outlets and extension cords as this may result in fire or electric shock.
- Mains lead protection (U.S.: Power cord): Power cords should be routed so that they are not likely to be walked upon or pinched by items placed upon or against them, paying particular attention to cords at plugs and receptacles.

Water and moisture

Never expose the display to rain or moisture.

Never use the display near water - e.g. near a bathtub, washbasin, swimming pool, kitchen sink, laundry tub or in a wet basement.

Ventilation

Do not cover or block the ventilation openings in the cover of the set. When installing the display in a cupboard or another closed location, heed the necessary space between the set and the sides of the cupboard.

Installation

Place the display on a flat, solid and stable surface that can support the weight of at least 3 displays. If you use an unstable cart or stand, the set may fall, causing serious injury to a child or adult, and serious damage to the equipment.

More warnings in the Installation chapter.

Operating precautions

Continuous operation of the display with the same image may result in some image sticking on the LCD panel. Over 10 hours operation with the same image content is not recommended.

Switching on DPMS on display and PC and activating a good screen saver may decrease the risk of image sticking (image retention).

This apparatus conforms to:

CE (MDD 93/42/EEC class I product), IEC 60601-1, UL 60601-1,
IEC 60950-1, CAN/CSA C22.2 No. 601.01-M90 (c-UL)

National Scandinavian Deviations for Cl. 1.7.2 :

Finland: "Laite on liitettävä suojamaadoituskoskettimilla varustettuun pistorasiaan"
Norway: "Apparatet må tilkoples jordet stikkontakt"
Sweden: "Apparaten skall anslutas till jordat uttag"

Explanation of symbols

Symbols on the display and/or power supply

On the display or power supply, you may find the following symbols:

Indicates the display is approved according to the CE regulations

Indicates the display is approved according to the UL regulations

Indicates the display is approved according to the c-UL regulations

Indicates the display is approved according to the DEMKO regulations

Indicates the USB connectors on the display

Indicates this apparatus must not be thrown in the trash but must be recycled, according to the European WEEE (Waste Electrical and Electronic Equipment) directive

Symbols used throughout the manual:

Warning

Caution

Important notice or remark

Note

Hint, tip

Additional information

Introduction

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Overview

Thank you for choosing Barco.

Single display or complete system?

This manual describes installation and usage of a complete system. A system is a bundling of one or more displays and one or more display controllers (graphics boards).

However, if you have purchased the display only instead of a complete system, please refer to the chapters in this manual covering the display, and disregard the information about the display controller.

BarcoMed 5MP2FH Overview

The BarcoMed 5MP2FH Display Controller delivers a quality 2048 x 2560 pixel image with 1024 simultaneous shades of gray for medical imaging applications.

Minimum System Requirements

- Half length PCI slot with no obstructions
- Pentium II 266 MHz with 128 MB RAM (Pentium II 800MHz with 256 MB RAM for cineloops)
- 256MB of system memory (minimum)
  for optimum performance consult your application provider for their recommended minimum system memory requirements
- PCI 2.1 Compliant System
- Windows 2000 Service Pack 1 and above or Windows XP

Features of theBarcoMed 5MP2FH

- Single slot, half-length PCI card
- 512 MB of Memory
- Dual Head Configuration
- 2048 x 2560 resolution
- 14 bit input and 10 bit output DAC
- 1024 Simultaneous shades of gray
- 400MB/second image download speed
- Real time window leveling and panning
- Hardware cursor
- Full Speed VGA Emulation
- Display Properties Control Panel to dynamically change display settings

- Control Panel support for the English (U.S.), Dutch, German, Japanese, Korean, Simplified Chinese and Traditional Chinese languages

Supported resolutions for each head of the BarcoMed 5MP2FH display controller

- 2048 x 2560 @ 50 HZ (primary)
- 2560 x 2048 @ 50 Hz

The following resolution is also available on head 1 when the OS is booted in VGA mode.

- 640x480 @ Default Refresh Rate, 16 colors

System Configuration Guidelines

Because of the low power consumption and low heat generation of the BarcoMed 5MP2FH, multiple boards may be installed in adjacent PCI slots or adjacent to other PCI boards. Additionally there should be no need to modify either the PC's power supply and/or cooling system.

Barco displays overview

MFGD 5621 HD display

The MFGD 5621 HD is a 21.3-inch grayscale LCD display with a native resolution of 2560 x 2048.

Its high-brightness, combined with image crispness and excellent viewing angle, makes it an ideal solution for a multitude of medical applications and environments.

I-Guard

I-GUARD® is Barco's patent-pending, built-in calibration device, continuously maintaining image quality. With I-GUARD®, QA checks no

longer need to disturb normal radiology activities, as they can be performed while applications are running.

I-GUARD® allows radiologists or QA administrators to calibrate their viewing stations or adjust the panel's curve to DICOM standards without administrator intervention.

Power saving

The display is equipped with a power saving system. When left idle for a certain time, the computer connected to the display, will power down the display.

The power saving system can be switched on or off using the on-screen menus.

The power saving system works with the standard Windows power saving and with the DPMS function on the BarcoMed display controller.

Tilt & swivel base

The versatile tilt & swivel foot allows to use the display for viewing portrait or landscape image resolutions.

The user can easily change the panel height and viewing angle, allowing to use the display in the optimal viewing conditions.

Per Pixel Uniformity (PPU)

Coronis 5MP Mammo is equipped with the unique Per Pixel Uniformity (PPU) functionality.

This proprietary technology measures and adjusts the luminance output at pixel level and eliminates screen noise, thereby making each individual pixel DICOM-compliant.

The PPU technology operates transparently and in real-time.

Defect Pixel Compensation (DPC)

Current Liquid Crystal Displays contain some missing pixels. These so-called defect pixels can be problematic because you might miss critical information in a mammography image.

Barco's Coronis 5MP Mammo flat panel has Defect Pixel Compensation (DPC) technology.

DPC detects and identifies the missing pixels in each individual display. In addition, Barco's user-friendly MediCal® Pro software can generate a report of this information.

Package contents

Coronis System package

Each Coronis system contains one or more display boxes (see below) and a *system* accessory box containing the following items:

- Display controller(s)
- CD-ROM with driver and documentation
- MediCal Pro software
- MediCal Pro user manual
- This manual

Display box

Each display box includes one display and a *display* accessory box containing the following items:

- Plastic cover of the tilt & swivel foot
- Digital video (DVI) cable (25-pins)
- USB cable
- Two velcro strips to bind the cables
- European power cord
- American power cord
- Chinese power cord

If some of the items are missing, please contact the reseller from whom you have purchased the unit.

Parts, controls and connectors

Front

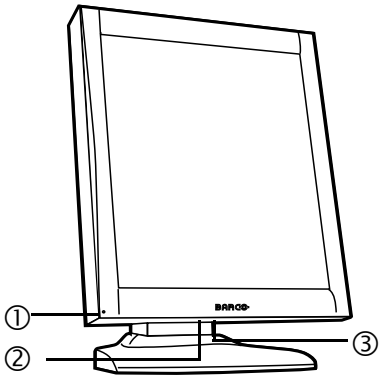

Figure 1

1. Power LED

   The LED is **off** when the display is disconnected from the power. The LED is also off when the LED function is disabled in the on-screen display (OSD).

   The LED is **green** when the display is on (when enabled in the on-screen menus).

   The LED is steady **orange** when the display is in Stand-by power-saving mode.

   The LED is blinking orange for approximately three minutes after power on, when PPU data (Per Pixel Uniformity) is loaded.

2. USB downstream port. See also item “6.” on page 24

3. Control wheel

   The control wheel can be pushed like a push button and turned like a knob.

It allows to put the display in stand-by, navigate through the on-screen display (OSD) menus and change values in the OSD.

Rear

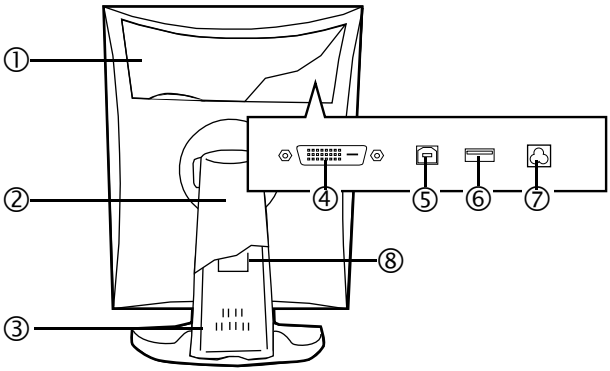

Figure 2

1. Connector compartment cover

   To get access to the connectors, remove the cover by pulling down the 2 clips at the top of the cover.

2. Tilt & swivel foot cover

   This cover is packed in a separate box when the display is shipped to the customer.

3. Tilt & swivel foot
4. DVI (digital) video input
5. USB upstream port

   Connect this connector to the PC USB bus if you wish to connect USB devices to the display's USB downstream port.

6. USB downstream port

   When the display is connected to the PC USB bus, you can connect USB devices, such as keyboard, mouse, digital camera, to this connector.

7. AC power input, 90 - 264 Vac

Caution: Double pole / neutral fusing.

Connect the power cord, delivered with the display, to this connector.

8. Tilt & swivel foot clip

The display is shipped with this clip in the foot to protect the tilt & swivel mechanism during transport. After unpacking, you should remove this clip.

Do not throw the clip away! Should the display have to be packed and shipped later, the clip must be applied to the foot again.

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Installation

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Installation precautions

Precautions

- Keep your original packaging. It is designed for this display and is the ideal protection during transport.
- Avoid reflections in the flat panel to reduce eye strain.
- Place the display on a strong and stable table or desk.
- Keep the display away from heat sources and provide enough ventilation around the display.
- Do not use the display in direct sunlight.
- Do not scratch or apply pressure to the LCD panel. This may damage the panel permanently.

Installing the BarcoMed 5MP2FH display controller

Caution: Wear a protective ESD strap during installation or handling of the display controller. Electrostatic charges can damage the display controller.

Prior to installing your BarcoMed 5MP2FH display controller(s) in your PC please take a few minutes to familiarize yourself with both the display controller and the PCI slots in your computer.

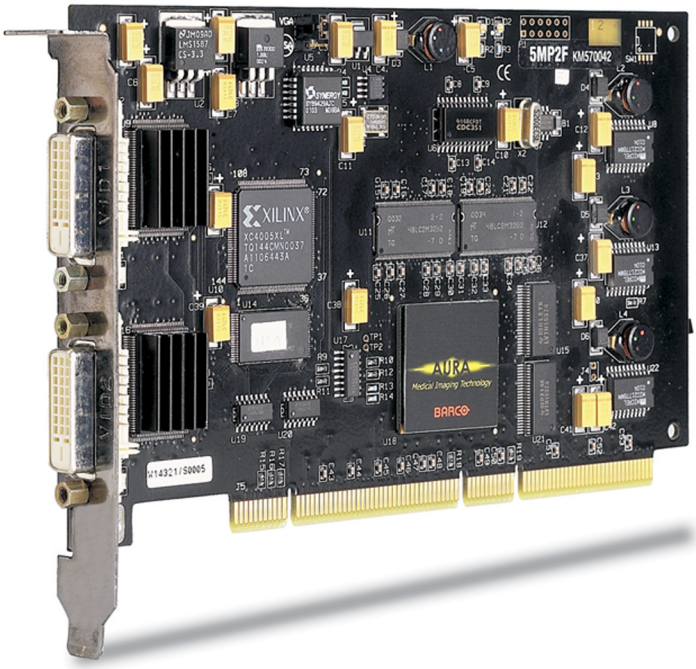


Figure 3: The BarcoMed 5MP2FH display controller

Jumper location

There is one user settable jumper on the BarcoMed 5MP2F. It is used to enable or disable the VGA capabilites of the display controller.

Figure 4: VGA Jumper Enlarged View

Using the VGAcapabilities of the BarcoMed 5MP2FH

Prior to installing the BarcoMed 5MP2F, decide if you are going to use its on-board VGA capabilities. If you are, check the setting of the Jumper at J-1 on the graphics board. (See VGA Jumper, J-1, Figures 3 and 4) By default, VGA should be enabled, on the top two pins.

NOTE: To use multiple 5MP2F display controllers in a single host with VGA enabled, you need to enable VGA on only ONE of the 5MP2F display controllers and disable VGA on ALL other BarcoMed display controllers.

Examples of PCI slots

Although the BarcoMed 5MP2FH has a 64 bit PCI connector, it functions as a 32 bit board. It may be installed in either a 32 bit or 64 bit slot with no loss of functionality. Figure 5 illustrates the types of slots so that you can correctly identify which one to use for the BarcoMed 5MP2FH.

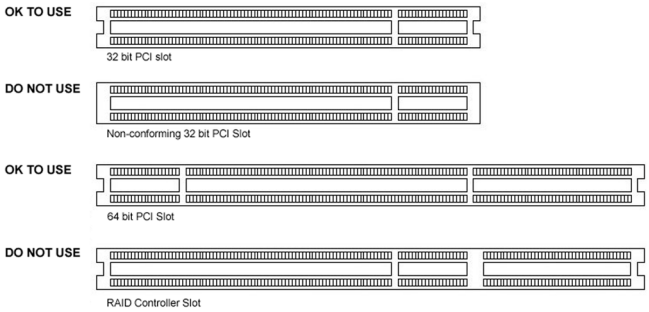


Figure 5: PCI and RAID Controller Slots

Install the BarcoMed 5MP2FH controller in your computer following these steps:

1. Turn off the power to your computer and disconnect the power cord, however make sure that the computer chassis is still grounded.
2. Remove the chassis cover according to the manufacturer's instructions. Be sure to observe safety warnings.
3. If you have decided to use the on-board VGA capabilities of the BarcoMed 5MP2FH (see **Using the VGAcapabilities of the BarcoMed 5MP2FH** on page 31), you **must now remove** any VGA display controller(s) that are currently installed in the computer.
4. Install the BarcoMed 5MP2FH Controller into a free PCI slot, either 32 bit or 64 bit (see figure 2, for examples of slots). Be sure that the display controller is seated firmly in the slot.
5. Secure the card to the chassis with the PC's I/O panel mounting screw, and replace the chassis cover.
6. Connect the primary display (left most display in a linear configuration, top most in a vertical configuration) to the uppermost connector on the BarcoMed 5MP2FH (the output farthest from the motherboard – **"Head 1"** in figure 6 on page 33) using the provided DVI cable. For a dual-headed BarcoMed 5MP2FH setup, connect the secondary display to the other connector on the display controller.

7. Replace the chassis cover, reconnect the power cord, turn on the power, and boot the system as usual.

Running multiple BarcoMed 5MP2F display controllers in a single host

The physical order of the displays may vary when you are running multiple BarcoMed 5MP2F display controllers. This is due to the PC's PCI bus control in the system BIOS, and not the BarcoMed display controller. It may become necessary, depending on how your PC's BIOS configures the PCI bus, to switch your DVI display connections to achieve a linear desktop configuration.

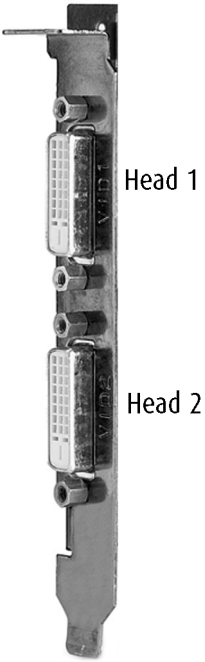


Figure 6: The Video Outputs.

Display installation

After unpacking the display

Important:

In the factory, the height-positioning system in the display foot is blocked with a red clip to prevent damage during transportation.

Before installing the display, you must remove this clip.

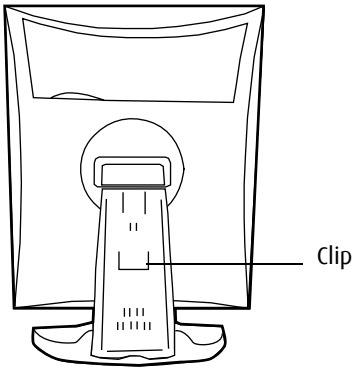


Figure 7

To remove the clip:

1. Position the display with its rear side facing you.
2. Pull the red clip out of the fixation holes in the foot.
3. Keep the clip in case the display needs to be shipped later.

Adjust the panel orientation

You can change the orientation of the panel at any time, but it is more convenient to select landscape or portrait orientation before connecting the cables.

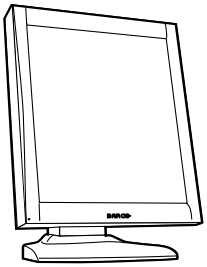


Figure 8: Portrait orientation

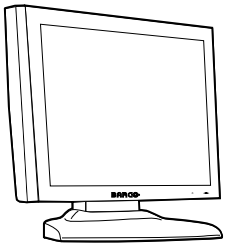


Figure 9: Landscape orientation

To change the panel orientation:

1. Stand at the front side of the panel and take the panel at both sides.

Very important: Tilt the panel before changing the orientation.

Should you change the panel orientation without tilting it first, you might irreversibly damage the tilt & swivel mechanism.

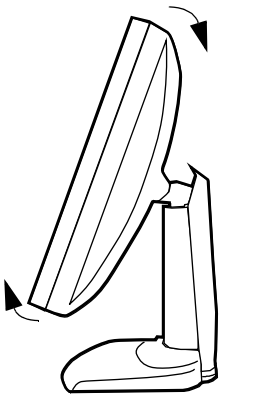


Figure 10: Tilt the panel before rotating

3. To change from portrait to landscape, turn the panel counterclockwise.

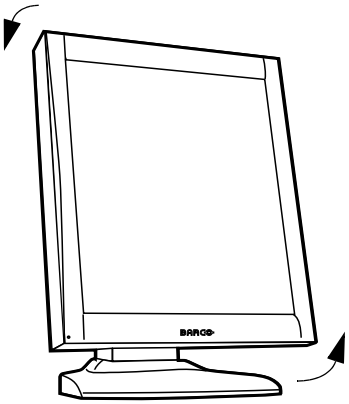


Figure 11: To rotate the panel from portrait to landscape

4. To change from landscape to portrait, turn clockwise.

Notice:

If, after installing the display or the system, you change the panel orientation while an image is on the screen, the result depends on your application:

- In a Coronis system, the image orientation will adapt to the new panel orientation automatically after a second.
- If the I-switch software is installed and enabled, the image resolution will also be adapted automatically to the new panel orientation.
- If you use the display stand-alone, the image orientation will not change with the panel orientation.

Only the orientation of the on-screen display (OSD) will change automatically in case “Orientation” in the OSD Geometry menu is set to “Automatic”.

To change the orientation of the image, you will have to change the resolution in the Windows Display control panel (if possible).

Power connection

To connect the power:

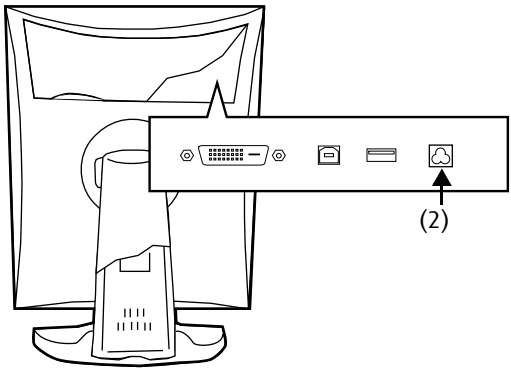


Figure 12

1. To get access to the connectors, remove the connector compartment cover by pulling down the 2 clips at the top of the cover.
2. Connect one end of the proper power cable to the AC input of the display.
3. Connect the other end of the power cord to a **grounded** power outlet.

Video connection

Connecting DVI cables: One display:

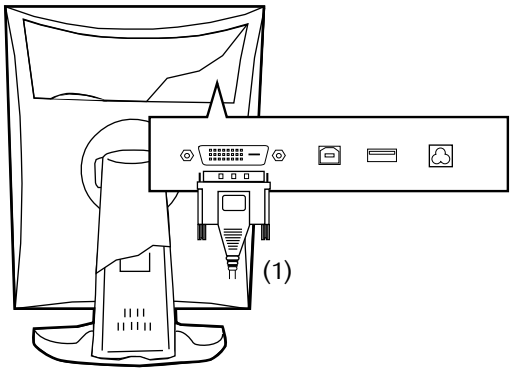


Figure 13

1. Connect one end of the DVI cable to the DVI input of the display.
2. Connect the other end of the DVI cable to the DVI connector of the display controller board. If this board has 2 video heads (2 video outputs), connect to output Vid 1 (Head A).

Connecting DVI cables: Two displays:

1. Connect the left display (when looking at the front side) to display controller output Vid 1 (Head A) as described above.
2. Connect the second display to output Vid 2 (Head B).

USB connection

The USB connection allows you to use the display as USB hub, to which you can connect USB devices, such as a keyboard, mouse or digital camera.

To connect the USB cable:

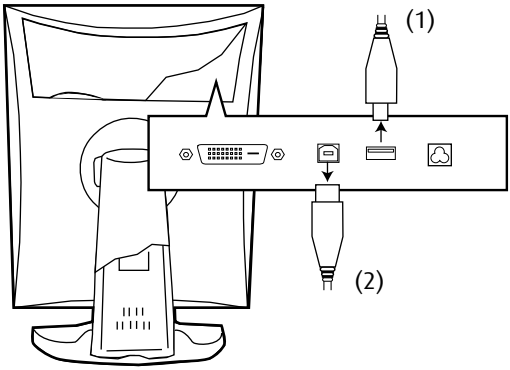


Figure 14

1. Connect a PC USB downstream connector to the display's USB upstream connector by means of a USB cable.
2. Connect any USB device to one of the display's USB downstream connectors.

Cable routing

Routing the signal cables

- Bind the cables in the connector compartment together with the cable tie inside the connector compartment.
- Put the connector compartment cover back on the display. Pay attention that the signal cables are positioned under the bulge in the cover.
- Push the cables into the clips on the rear of the tilt & swivel foot.
- Bind the cables together above and under the foot, by means of the 2 velcro strips attached to the inside of the foot cover (packed inside the accessory box).
- At last, put the foot cover back in place.

To put the foot cover in place:

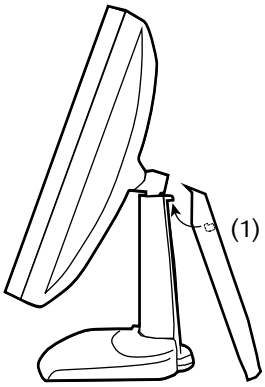


Figure 15

1. Push the upper side of the cover onto the foot, so that the hooks inside the cover are positioned right under the bulges at the rear of the foot.
2. Slide the cover upward while moving the lower side of the cover towards the foot.
3. Press the cover to the foot so that it makes a clicking sound.

Attaching the display to an arm stand

The panel, standard attached to the tilt & swivel foot, is compatible with the VESA 100 mm standard. So it can be used with an arm stand according to the VESA 100 mm standard.

Therefore, the tilt & swivel foot must be removed from the panel.

Important:

- Use an arm that is approved by VESA (according to the VESA 100 mm standard).
- Use an arm that can support a weight of at least 13 kg (28.66 lbs).

To attach the display to an arm stand:

1. Put the display face down on a clean and soft surface. Be careful not to damage the panel screen.
2. Remove the tilt & swivel foot cover.
3. Remove the small screw (A) fixing the small plastic cover on top of the foot. Next, remove the small cover itself.

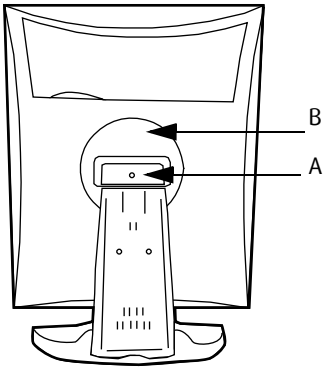
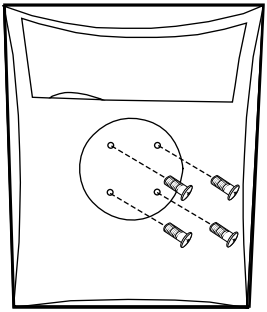


Figure 16: Display with tilt & swivel foot cover removed

4. Unscrew the 2 screws fixing the round plastic cover (B).

5. Lift up the round plastic cover.
6. Remove the four screws fixing the foot while supporting the foot.
7. Attach the arm stand **firmly** to the panel using 4 screws M4 x 8 mm.



4 screws M4 x 8mm

Figure 17

Software Installation

Tip: These instructions apply to both **Windows 2000** and **Windows XP**.

Preparation

Prior to installing your Coronis 5MP Mammo software the following should be done.

1. Install the BarcoMed 5MP2FH display controller in your system.
2. Connect the Coronis 5MP Mammo display panel(s) to the BarcoMed 5MP2FH display controller and power supply.
3. Decide if you want to install the Barco DPMS Screen Saver and the Coronis I-Switch Software in addition to the driver.
4. Decide if you are going to install the BarcoMed 5MP2FH driver with DualView enabled or disabled.
5. Decide what palette mode you want to use.
6. Decide if you want to enable the DirectDraw capabilities of the BarcoMed 5MP2FH display controller.

Caution: Both displays connected to a single display controller must have the same physical orientation and resolution in order to be attached to the Windows desktop. This is a requirement of the Windows operating system.

Using the BarcoMed Product Installation Wizard

To install your Coronis 5MP Mammo Windows Display Controller Driver, Barco DPMS Screen Saver and the Coronis I-Switch Software for the first time follow the steps below.

If you are reinstalling the drivers or installing a new driver release over an existing driver release skip to the step 5:

Boot your system, and log in using an account with administrator privileges.

2. For each BarcoMed 5MP2FH display controller installed in your system Windows will launch the "Found New Hardware Wizard". Click **"Cancel"**. Continue to click **"Cancel"** until Windows stops launching the "Found New Hardware Wizard". Please be patient as this may take several minutes while Windows scans its library of Plug-and-Play device drivers to see if it has a driver for your BarcoMed 5MP2FH controller.

3. If Windows advises you that it has finished installing all the new devices in your system and that you must reboot your system in order for the changes to take effect, click **"No"**.

4. Insert your Coronis 5MP Mammo Software CD into your computer's CD drive. If the **"BarcoMed Product Installation Wizard"** doesn't start within one minute, browse the contents of your Coronis 5MP Mammo Software CD and double click on the file: **"Setup.exe"** to start the wizard.

   The BarcoMed Product Installation Wizard will begin by inspecting your system to make certain that all of the Windows components it needs are up to date. If they are, the BarcoMed Product Installation Wizard will display the BarcoMed Product Installation Wizard's welcome screen (figure 18).

Figure 18

If it determines that the Microsoft Installer is either out of date or missing, it will display the screen shown in figure 19 below. Click **"OK"** to continue, the wizard will then install a newer version of the Microsoft Installer.

PLEASE NOTE
Microsoft Installer(MSI) is either not installed on your system or is an older version. I will install a newer version of MSI. If MSI Installer asks you to REBOOT the system, you must choose YES in order for the Barco installation to complete successfully.
Please wait while I install MSI (version 2.0.2600.2)...
OK

Figure 19

The BarcoMed Product Installation Wizard will advise you when it has successfully installed the new version of the Microsoft Installer. Click **"OK"**.

The Wizard may prompt you to restart your system. If it does, click **"Yes"** to restart your system now.

When your system restarts log in using an account with administrator privileges. Windows will again launch the "Found New Hardware Wizard" for each BarcoMed 5MP2FH it finds in your system. Click **"Cancel"**. Continue to click **"Cancel"** until Windows stops launching the "Found New Hardware Wizard - Video Controller". Again, please be patient as Windows will again scan its library of Plug-and-Play device drivers to see if it has a driver for your BarcoMed 5MP2FH controller.

The BarcoMed Product Installation Wizard's welcome screen will now be displayed (see figure 20 on page 46). By default all the software on the BarcoMed Software CD will be selected. For the initial installation we recommend that you install all of the software. If you do not want to install a particular BarcoMed Software product at this time, deselect it by clearing the checkbox next to it.

5. Click **"Install"** to continue or **"Cancel"** to exit the wizard.

Figure 20

Driver installation

6. Click **"Next"** on the Display Driver Wizard's Welcome Screen to continue or **"Cancel"** to exit the Display Driver Wizard and return to the Software Install Wizard.

The Device Selection Screen's dialog box should show only those devices physically installed and supported by the BarcoMed display controller driver on your BarcoMed Software CD. If there are no BarcoMed devices installed, or if Windows does not recognize the installed devices, or if the driver on your BarcoMed Software CD does not support the installed devices, the dialog box will be empty, and the BarcoMed driver wizard will exit when you click **"Finish"** or **"Cancel"**. Select the device you want to install and then click **"Next"**.

Caution: You can install the driver for only one type of BarcoMed device at a time. If you have multiple types of BarcoMed devices installed in your computer, you will need to rerun the installer to install the drivers for the other devices.

If you select a device with an installed driver, the wizard will warn you if the installed driver is newer than the one you are installing (figure 21).

PLEASE NOTE:
The existing driver for the following graphics device is newer than the one you are installing.
Your device currently has driver version:
OK

Figure 21

Click **"OK"** to install the new driver. If you don't want to replace the exiting driver, click **"OK"** and then click "Cancel".

7. Your selection on the "Enable DualView" screen determines if DualView is enabled or not. If you wish to enable DualView **"check"** the checkbox next to "Enable the DualView device?", and click **"Next"**.

If you do not wish to enable DualView leave the checkbox **empty** and click **"Next"** to continue.

8. The "Device Confirmation" screen displays the device driver that will be installed. If you want to change your selection, click **"Back"** to return to the Device Selection Screen. Click **"Next"** to begin installing the driver. Click **"Cancel"** to abort the driver installation.

Caution: Once you click **"Next"**, you cannot cancel the driver installation.

Prior to beginning the installation the BarcoMed Driver Install Wizard will warn you that while the driver is being installed your display may flicker. Click **"OK"** to continue.

9. When the screen shown in figure 22 on page 48 or figure 23 on page 48 appears, click **"Yes"** or **"Continue Anyway"** to continue. This screen may appear multiple times.

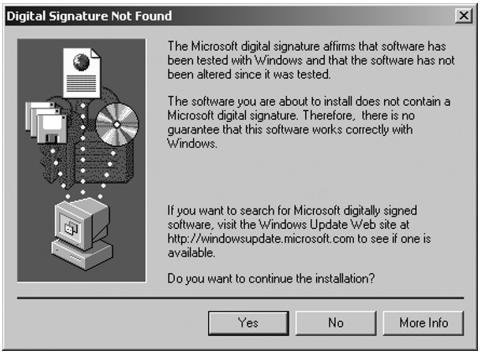

Digital Signature Not Found
The Microsoft digital signature affirms that software has been tested with Windows and that the software has not been altered since it was tested.
The software you are about to install does not contain a Microsoft digital signature. Therefore, there is no guarantee that this software works correctly with Windows.
If you want to search for Microsoft digitally signed software, visit the Windows Update Web site at http://windowsupdate.microsoft.com to see if one is available.
Do you want to continue the installation?
Yes
No
More Info

Figure 22: Windows 2000 Digital Signature Not Found Warning

Hardware Installation
The software you are installing for this hardware:
has not passed Windows Logo testing to verify its compatibility with Windows XP. (Tell me why this testing is important.)
Continuing your installation of this software may impair or destabilize the correct operation of your system either immediately or in the future. Microsoft strongly recommends that you stop this installation now and contact the hardware vendor for software that has passed Windows Logo testing.
Continue Anyway
STOP Installation

Figure 23: Windows XP Windows Logo Testing Warning

10. When the screen shown in Figure 7 below appears select the palette mode which is the correct one for your viewing application. If you are uncertain use the default settings. You can change the palette mode later (See **"Palette Mode"** on page 59 of the BarcoMed Driver Tab section). If you want to enable DirectDraw check the checkbox next to "Enable Direct Draw". Click **"Next"**.

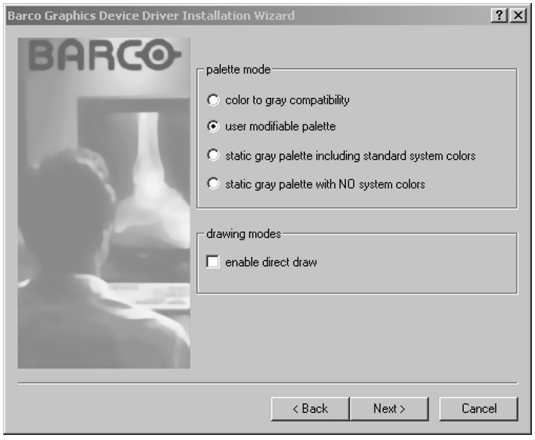


Figure 24

When the Driver Install Wizard tells you that it has successfully installed the selected driver, click **"Finish"**.

The wizard will now begin installing the next selected piece of BarcoMed Software. If you are working with the default selections, this will be the Barco DPMS Screen Saver. Please turn to the section, **"BARCO DPMS Screen Saver Installation"** on page 50.

If the installation of the products you selected at the beginning is complete, click **"Finish"** to exit the BarcoMed Product Install Wizard or click "Back" to return to the Welcome Screen of the BarcoMed Product Install Wizard to select additional software to install.

When you click **"Finish"** Windows may prompt you to restart your system, if it does click **"Yes"** and turn to the section **"Barco monitor plug and play software"** on page 52.

Note: Clicking **"Cancel"** will also return you to the BarcoMed Product Install Wizard, but will not delete the Barco Display Driver. The wizard will also begin to install the next selected piece of BarcoMed Software.

If the Wizard *failed* to successfully install the selected driver, it will warn you that the installation failed. Click **"Finish"** to return to the BarcoMed Product Install Wizard. The wizard will now begin installing the next selected piece of BarcoMed Software. Click **"Cancel"**, then click **"Yes"** then click **"Finish".** Now **"Back"** and try reinstalling the driver following the steps above or using the steps outlined in "Reinstalling or Updating your BarcoMed Drivers" section found later in this chapter.

BARCO DPMS Screen Saver Installation

Click **"Next"** on the Welcome Screen of the BARCO DPMS InstallShield Wizard to begin the installation. Click **"Cancel"** to cancel the DPMS installation and return to the BarcoMed Product Install Wizard (see figure 25 on page 50).

DPMS Screen Saver - InstallShield Wizard
Welcome to the InstallShield Wizard for DPMS Screen Saver
The InstallShield(R) Wizard will install DPMS Screen Saver on your computer. To continue, click Next.
WARNING: This program is protected by copyright law and international treaties.
< Back
Next >
Cancel

Figure 25

11. The "Customer Information" screen will appear. The Installer will automatically fill in the blanks using the information entered when Windows was installed on your system. You may change this information if you wish. Click **"Next"** to continue.

12. The "Setup Type" page will now appear. Choose **"Typical"** to install the default schemes with English names. Choose **"Custom"** to install the default schemes with either Dutch or German names.

Currently the default schemes are not supported in the Japanese, Korean and Chinese languages. We recommend that the users of these three languages install the English default schemes and then rename and save them into their language in the DPMS configuration screen. Click **"Next"** to continue.

13. The "Ready to Install Program" page will now appear, click "Install" to install DPMS or "Back" if you wish to change any of your DPMS installation settings.

    During installation the wizard will display a progress screen.

14. When the Windows Installer has finished installing DPMS, the "InstallShield Wizard Completed" page will appear, click **"Finish"** to exit the BARCO DPMS InstallShield Wizard and return to the BarcoMed Product Install Wizard Welcome Screen.

After returning to the BarcoMed Product Install Wizard Welcome Screen, the wizard will clear the checkbox next to DPMS Screen Saver and will automatically launch the Coronis 5MP Mammo I-Switch Software Install Wizard if the Coronis 5MP Mammo I-Switch Software was selected when you began installing the software.

If the installation of the products you selected at the beginning is complete, click **"Finish"** to exit the BarcoMed Product Install Wizard or click **"Back"** to return to the Welcome Screen of the BarcoMed Product Install Wizard to select additional software to install.

When you click **"Finish"** Windows may prompt you to restart your system, if it does click **"Yes"** and turn to the section **"Barco monitor plug and play software"** on page 52.

Coronis 5MP Mammo I-Switch Software Installation

Note: The Coronis 5MP Mammo I-Switch Software is only available for systems which have the Portrait Accelerator in the Display Panel and BarcoMed Display Driver releases that include the Coronis 5MP Mammo I-Switch Software. The Coronis 5MP Mammo I-Switch Software may not be available for your system.

15. Click **"Next"** on the Welcome Screen of the Coronis 5MP Mammo I-Switch Software InstallShield Wizard to continue the installation. Click **"Cancel"** to cancel the Coronis 5MP Mammo I-Switch Software installation and return to the BarcoMed Product Install Wizard.

16. The Coronis 5MP Mammo I-Switch Software must be installed on a local hard drive in order for it to function correctly. We recommend that you install it in the default location: C:\WINNT. If you wish to install the Coronis 5MP Mammo I-Switch Software in a different location use the "browse" button on the Install Location Screen of the Coronis 5MP Mammo I-Switch Software InstallShield Wizard. Click **"Next"** to continue the installation.

17. Click **"Next"** on the "Setup has enough information" screen to continue.

18. When the Coronis 5MP Mammo I-Switch Software InstallShield Wizard has finished installing the software, it will tell you that it has finished installing the software on your computer and prompt you to click **"Finish"** to complete the setup. Click **"Finish"** to exit the Coronis 5MP Mammo I-Switch Software InstallShield Wizard and to return to the BarcoMed Product Installation Wizard.

19. Click **"Finish"** to exit the BarcoMed Product Installation Wizard or click **"Back"** if you wish to install additional BarcoMed software.

Windows may now warn you that you must restart your computer before the new settings will take effect.

Click **"Yes"** to restart your computer now.

Click **"No"** if you wish to restart your computer later.

When your system restarts, boot normally and log in using an account with administrator privileges and set the resolution of your Coronis 5MP Mammo displays.

Barco monitor plug and play software

After your system restarts and you have logged in, Windows will install the Barco Monitor Plug-n-Play software. If Windows displays the screens

shown in figure 26 and figure 27 on page 53, click **"Yes"** or **"Continue Anyway"** to continue.

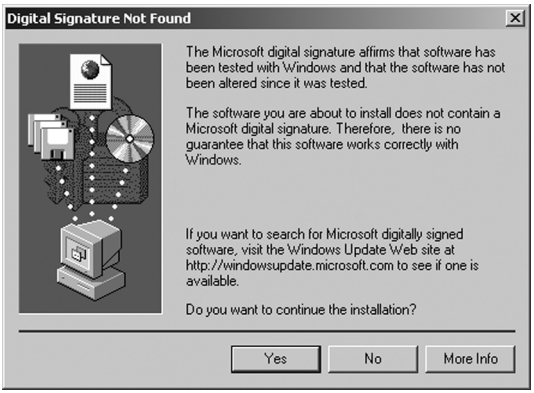

Digital Signature Not Found
The Microsoft digital signature affirms that software has been tested with Windows and that the software has not been altered since it was tested.
The software you are about to install does not contain a Microsoft digital signature. Therefore, there is no guarantee that this software works correctly with Windows.
If you want to search for Microsoft digitally signed software, visit the Windows Update Web site at http://windowsupdate.microsoft.com to see if one is available.
Do you want to continue the installation?
Yes
No
More Info

Figure 26: Windows 2000 Digital Signature Not Found Warning

Hardware Installation
The software you are installing for this hardware:
has not passed Windows Logo testing to verify its compatibility with Windows XP. (Tell me why this testing is important.)
Continuing your installation of this software may impair or destabilize the correct operation of your system either immediately or in the future. Microsoft strongly recommends that you stop this installation now and contact the hardware vendor for software that has passed Windows Logo testing.
Continue Anyway
STOP Installation

Figure 27: Windows XP Windows Logo Testing Warning

The Barco Monitor Plug and Play software will automatically set the resolution for the displays of your Coronis 5MP Mammo System. However, the second head of a dual headed system may be inactive. To make this display active you must **extend** your desktop to this display using the **"Windows Display Control Panel"**. If for some reason Windows failed to set the resolution of your panels please turn to the

section **"Setting the resolution of your Coronis 5MP Mammo display"** on page 118 of the **Troubleshooting Section** of this manual for instructions on setting the resolution.

Display Controller settings

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BarcoMed Driver Tab

Introduction

After the BarcoMed Windows display controller driver is installed, a new Display Properties tab is available for configuring special features of the BarcoMed display controller.

Languages supported

The BarcoMed Driver Tab supports the following languages:

English (U.S) (default)
Dutch
French
German
Italian
Japanese
Korean
Simplified Chinese
Traditional Chinese

To change between the languages select the correct region via the Regional Settings Control Panel in your machine's Start > Settings > Control Panel.

Using the BarcoMed Driver Tab

Please note that you must have logged on to Windows using an account with administrator privileges in order to use the BarcoMed Tabs of the Windows Display Control Panel to change any display settings.

1. Open the "Display Properties Control Panel" by right clicking on the desktop, then select **"Properties"**.

2. Under Windows 2000 or Windows XP, click on **"Settings"** tab. Double click on the rectangle that represents the Barco display whose settings you wish to change to bring up its property page. Click on the "BarcoMed Driver" tab (see figure 28).

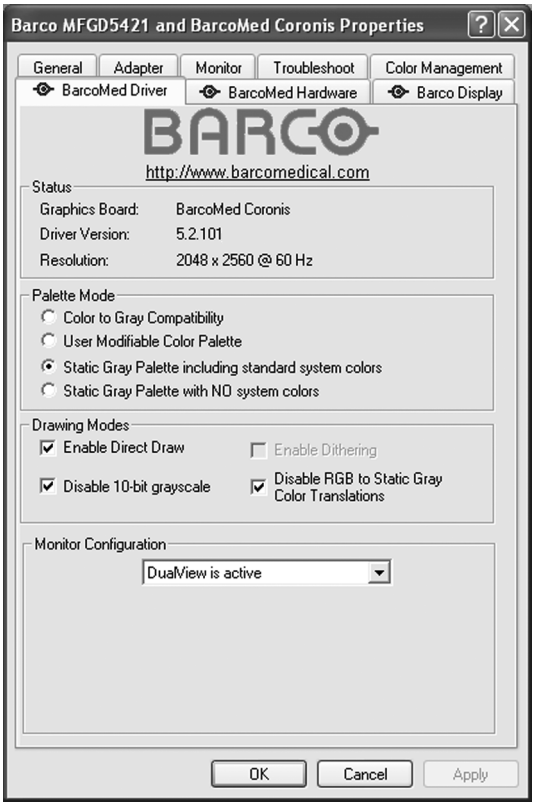

Figure 28: BarcoMed Driver Tab

Status

The Status section displays information about the current BarcoMed display controller, driver, and the currently selected display resolution.

Graphics Board

This displays the current BarcoMed display controller.

Driver Version

This displays the current BarcoMed driver version.

Resolution

This displays the currently selected display resolution.

Palette Mode

In the Palette Mode section you can choose one of the four following Palette Modes.If you are using a color display in conjunction with your Barco grayscale display(s) under Windows 2000 or Windows XP, prior to selecting a palette mode please make certain that you have configured your Window 2000 or Windows XP desktop correctly. (See the section **“Configuring the Windows 2000 or Windows XP desktop”** on page 117.)

Color to Gray Compatibility

Use this palette option for applications, such as Java, which require True Color support. Such applications may not work correctly when using one of Barco's three “Standard 8-bit (256-color)” palette modes. All applications that are designed to work correctly with 8-bit (256-color) modes should continue to work normally.

Please note that dithering is not used while in this mode. The Enable Dithering check box will be grayed-out, and dithering will be automatically disabled regardless of whether this check box is checked. This complies with the Windows standard interface method.

Also, please note that direct access to the hardware through DirectDraw is not allowed in this mode. The Enable DirectDraw check box will be

grayed-out, and DirectDraw's access to the hardware will be automatically disabled regardless of whether this check box is checked. DirectDraw is still usable through DirectDraw's Hardware Emulation Layer.

UserModifiable Color Palette

This option allows applications to modify the palette contents dynamically. As indicated in figure 29, this mode reserves the first 10 and last 10 entries in the palette for the Windows operating system, but applications can manipulate the middle 236 entries. This is the standard palette mode as configured by Windows.

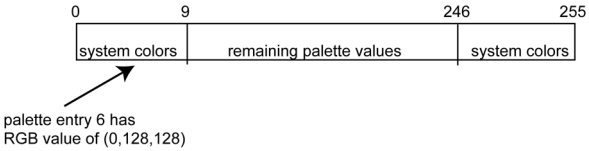

Figure 29

Static Gray Palette including standard system colors

This option sets the palette to be a static set of 256 gray values. Therefore, applications are denied the ability to dynamically change or allocate palette entries. This prevents palette conflicts between applications, which can cause image color values to appear distorted in the background application.

As shown in figure 30, the 20 standard system colors are converted from RGB to gray values. The rest of the 236 entries from index 10 to 245 contain the missing gray values so that the palette has the full 256 gray values within it.

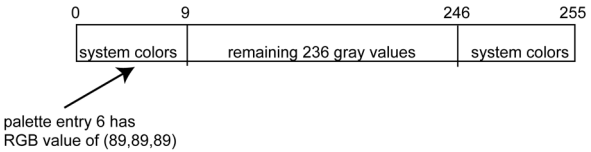

Figure 30

Please note that dithering is not permitted while in this mode. The Enable Dithering check box will be grayed-out, and dithering will be automatically disabled regardless of whether this check box is checked. This complies with the Windows standard interface method. If you are unsure whether or not your application requires this “Static Gray Palette including Standard System Colors” mode, contact your application provider.

Static Gray Palette with NO system colors

This option sets the palette to be a static linear ramp of 256 shades of gray. Therefore, applications are denied the ability to dynamically change or allocate palette entries. This prevents palette conflicts between applications, which can cause image color values to appear distorted in the background application.

As shown in figure 30, each of the 256 entries in the palette has an RGB value of (i, i, i) where i is the index from 0 to 255.

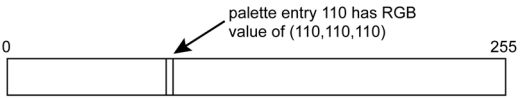

Figure 31

If you wish to use a static gray palette we recommend using the “Static Gray Palette including Standard System Colors” option instead of this one. This is due to the fact that some applications assume that the first and last 10 entries of the palette are the standard system colors. In this palette mode, these entries are made up from entries in the bottom or the top of the gray ramp. Please note that dithering is not permitted

while in this mode. The Enable Dithering check box will be grayed-out, and dithering will be automatically disabled regardless of whether this check box is checked. This complies with the Windows standard interface method. If you are unsure whether or not your application requires this “Static Gray Palette with NO System colors” mode, contact your application provider.

Drawing Modes

In the Drawing Mode section you can choose from the following Drawing Modes. If any of the options in this section are grayed out, then they are not available for the model controller with which you are working.

Enable DirectDraw

This option allows the user to enable or disable DirectDraw. DirectDraw is a software interface that provides direct access to display devices while maintaining compatibility with the Windows graphics device interface (GDI). DirectDraw provides a device-independent way for applications to gain access to the hardware features of specific display devices. If you enable DirectDraw, your application will have the choice of using DirectDraw or GDI. If you disable DirectDraw, your application will use GDI instead of DirectDraw. Please note that in any case, your application can always use BarcoMed driver functions (i.e. WinBarco) or other graphics extensions (such as OpenGL). DirectDraw is enabled by default.

Enable Dithering

This option allows the user to enable or disable dithering. Dithering is a technique for increasing the perceived range of colors in an image at the cost of spatial resolution. Adjacent pixels are assigned differing color values; when viewed from a distance, these colors seem to blend into a single intermediate color. The technique is similar to the half-toning used in black-and-white publications to achieve shades of gray. Please

note that this option is only available when the User Modifiable Palette Mode is selected. This is because dithering is only supported under Windows when the display is palletized. If either the “Static Gray Palette including Standard System Colors” mode or the “Static Gray Palette with NO System colors” mode is selected, the “Enable Dithering” check box will be grayed-out, and dithering will be automatically disabled regardless of whether this check box is checked. This complies with the Windows standard interface method.

Disable 10-bit grayscale

Use this option for standard Windows®-based applications that require 8-bit color support (256 colors), such as Internet Explorer, Excel, etc.

Do not use this option for applications that require 10-bit pixel support (1024 simultaneous shades of gray) and use extended depth graphic libraries such as WinBarco.

Description of 10-bit grayscale

To show 1024 simultaneous shades of gray all BarcoMed “H” series display controllers, such as the BarcoMed 1MP2FH, 2MP2H, 5MP2FH, BarcoMed Coronis or BarcoMed Coronis 5MP for example, run in extended depth (10-bit) mode by default.

Implications

When turned on the “Disable Extended Depth” option causes a BarcoMed “H” series display controller to run in 8-bit mode, which results in increased performance since the frame buffer is set to run with 8-bit pixels. While this option may be used with applications that normally require 10-bit support, there will be a loss of pixel depth, i.e. 256 shades of gray instead of 1024 simultaneous shades of gray.

Disable RGB To Static Gray Color Translation

You must have Administrator privileges for this machine to be able to change this option. If you do not have Administrator privileges, this option will be grayed out.

Select Disable RGB To Static Gray Color Translation if you wish to have RGB values equally weighted, with 1/3 each.

When not selected, then the International Commission on Illumination (CIE – Commission Internationale de I'Eclairage) model will be adapted, which weights the colors as 59% Green, 30% Red, 11% Blue.

Monitor Configuration

Note: If the options in this section are grayed out, then they are not available for the model controller with which you are working.

Barco DPMS Screen Saver

Introduction

The BARCO DPMS (Display Power Management Signaling) Screen Saver allows the user to set power and display saving features for medical displays controlled by BarcoMed Display Controllers. At the end of the work day, the display will enter certain DPMS states as requested by the display controller.

Note: The Barco DPMS Screen Save will **not** control any displays connected to a non-Barco display controller.

The default state for the BARCO DPMS Screen Saver is the Off state. In addition to simply entering the Off state after the work day, the user can specify that the display first go through two other DPMS Screen Saver states before going into Off state. These two other states for the Screen Saver are Stand-By and Suspend. The user can specify how much time should be spent in each state in the “Amount of Time in each DPMS Power State” section.

On Barco CORONIS displays, the I-GUARD will stabilize the image within a few seconds after the display returns to the active state, thus eliminating the need for a warm-up period at the beginning of the work day.

On Liquid Crystal Display (LCD) based displays, such as the Barco CORONIS displays, it is not necessary to invoke a screen saver as there is no CRT phosphor to preserve. However, one can extend the life of the backlight in the LCD display, in addition to realizing great power savings, during period of user inactivity by using DPMS to quickly enter the Off state. We recommend setting the work day to be as short as possible to get the maximum power savings on CORONIS displays.

The BARCO DPMS Screen Saver can also be used when no one is logged on.

BARCO DPMS Screen Saver Options

From the "BARCO DPMS Screen Saver Control Panel" you can change many DPMS screen saver elements simultaneously. The DPMS screen saver elements in each scheme are work schedule, work day screen saver, DPMS settings after work day, and many additional options.

Current Scheme

Lists the three "DEFAULT" schemes which you can use as they are. Or you can modify them to meet your office's schedule.

Save As

Saves your current BARCO DPMS Screen Saver settings. The name you specify will appear in the Scheme list so you can easily restore these settings later.

Delete

Deletes the scheme that is selected in the Scheme box.

Work Schedule

In this part of the control panel the user may specify the "Begin Work Day" and "End Work Day" times for each work day. If the system is not expected to be used, leave both the "Begin Work Day" and the "End Work Day" times as the same time.

Begin Work Day

The "Begin Work Day" time is the time after which the system is expected to start being used. During the work day, the screen saver selected by the user in the "Screen Saver During Work Day" section is used during user inactivity.

End Work Day

The “End Work Day” time is the time after which the system is not expected to be used any more for that day. After the work day, the display is set to one of the DPMS states (Stand-By, Suspend, or Off) by the display controller during user inactivity.

Screen Saver During Work Day

On LCD based displays, such as the Barco CORONIS displays, it is not necessary to invoke a screen saver as there is no CRT phosphor to preserve. However, one can extend the life of the backlight in the LCD display, in addition to realizing great power savings, during period of user inactivity by quickly entering the Off state. We recommend setting the work day to be as short as possible to get the maximum power savings on CORONIS displays.

Available Savers

Lists the Available Screen Savers.

Settings

Changes settings for the selected screen saver.

DPMS Settings After Work Day

If you have an display controller that supports DPMS calls, then you will be able to set the DPMS Settings for after the work day. Otherwise, a text box will be displayed telling you why DPMS functions are not available.

Amount of Time in each DPMS State

After the work day, the display will be placed into one of the following DPMS Power States: Stand-By, Suspend, or Off. The default setting is for the display to directly go into the Off State and spend no time in the

Stand-By or Suspend states. If the user wishes to go into the Stand-By or Suspend states before going into the Off state, select the required amount of time for each state.

If requested, the display will first go into Stand-By state, then into Suspend state, and then into Off state. The properties of DPMS states are listed in the following table:

Table 1:

DPMS State	Power Savings	Monitor Recovery Time
On	None	N/A
Stand-by	Minimal	Short
Suspend	Substantial	Longer
Off	Maximum	Longest

Monitor Settings

Select the amount of time the display requires to warm-up. Since all CRT based displays require some warm-up time before they are at full performance, this ensures that the display is ready for use at the beginning of the work day.

If you have a Barco Medical Display, select “Barco Quick Start.” If a non-Barco display is being used, select the amount of time it takes your display to warm up via the “Monitor Setting” section. Contact your display vendor for this warm-up time.

On Barco CORONIS displays, the I-GUARD will stabilize the image within a few seconds after the display returns to the active state so there is no need for a warm-up time period.

Use As Logon Screen Saver

Check the box to use the BARCO DPMS Screen Saver when no one is logged into the system.

Uncheck the box to use the default screen saver when no one is logged into the system.

Getting started with the BARCO DPMS Screen Saver

The easiest way to get started is to select an existing settings scheme and then modify it with your preferences. Settings schemes are separated into two kinds, DEFAULT (global) and PRIVATE (personal).

Upon installation, three default settings schemes are installed and no private settings schemes are installed.

Default settings schemes are visible to all users of the system. However, they can be modified only by users with administrator privileges. If a user who does not have administrator privileges tries to save a scheme using an existing default scheme name, an error message is displayed saying “you must have administrator rights to modify a default scheme.” If an administrator saves a scheme using an existing default scheme name, a message is displayed to tell the user that the modification is saved to a default scheme and will be visible to all users. If the administrator saves a scheme using a new name, then the user is asked if the scheme should be saved as a default scheme or a private scheme. Since there is no distinction between how a default scheme and a private scheme is displayed, it is highly recommended that the user uses a different naming convention to distinguish the two (i.e. use “DEFAULT: ...” for default schemes).

Private schemes are personal. They are not shared and are visible only to the users who created them. All users of a system, including those who do not have administrator privileges, can create, modify or delete private schemes. When the delete button is pressed, the user is asked to confirm the delete request.

Using the BARCO DPMS Screen Saver

Using the Barco DPMS Screen Saver is similar to using any other Windows Screen Saver, each user of the system must select the Barco DPMS Screen Saver so that Windows will store the selection in the user's profile. If a user does not select the BARCO DPMS Screen Saver as his screen saver, the next time he logs on to the system the screen saver selection may be blank.

After selecting the BARCO DPMS Screen Saver the user must then select a settings scheme for the Screen Saver to follow. To set up the BARCO DPMS Screen Saver using one of the three default schemes, please do the following:

1. Open the "Display Properties Control Panel" by right clicking on an empty space of the desktop and selecting **"Properties"** from the drop down menu; then select the **"Screen Saver"** tab (see figure figure 32 on page 70 and figure figure 33 on page 71).
1. Select the **"Barco DPMS Screen Saver"** in the "Screen Saver" drop down menu if it is not already selected.

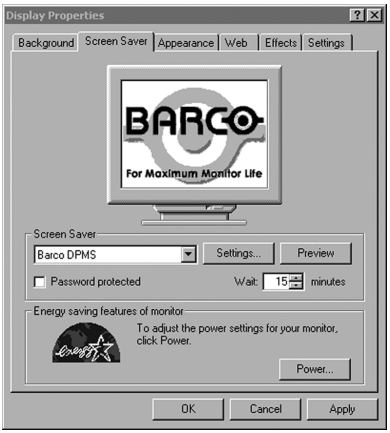

Figure 32: Windows 2000 Screen Saver Tab

Figure 33: Windows XP Screen Saver Tab

2. Click on the **"Settings"** button. The "BARCO DPMS Screen Saver Control Panel" will open (see figure 34).

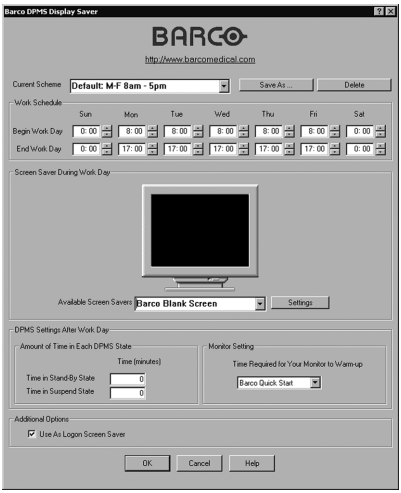

Figure 34: BARCO DPMS Settings Control Panel

3. Use the default schemes by selecting one of the three default schemes. Click **"OK"**. Then Click **"OK"** again.

Note: If you make any changes to any of the settings of one of the three default schemes, the Current Scheme field will blank and you MUST SAVE your changes by clicking on the **"Save As ..."** button. When you click on the **"Save As ..."** button, the name of the last scheme you used will be automatically displayed, you can then choose to use that scheme name or enter a new name. If you enter a name other than one of the three default scheme names, the program will ask you if you wish to save the scheme as a DEFAULT scheme (figure 35 below). Click **"Yes"** to save the settings scheme as a DEFAULT scheme, click **"No"** to save the scheme as a PRIVATE scheme. After you have saved the scheme, then click OK and the new scheme will be in effect.

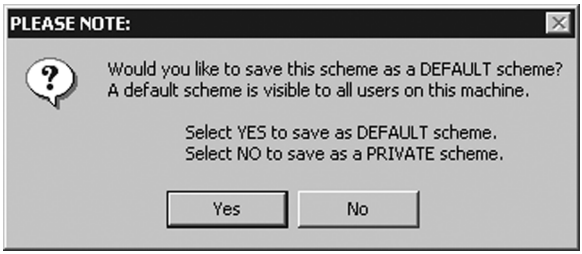
PLEASE NOTE:
Would you like to save this scheme as a DEFAULT scheme?
A default scheme is visible to all users on this machine.
Select YES to save as DEFAULT scheme.
Select NO to save as a PRIVATE scheme.
Yes
No

Figure 35

To create a new scheme by modifying one of the three default schemes please do the following.

1. Open the "Display Properties Control Panel" by right clicking on an empty space of the desktop and selecting **"Properties"** from the drop down menu; then select the **"Screen Saver"** tab.
2. Select the **"BARCO DPMS Screen Saver"** in the "Screen Saver" drop down menu if it is not already selected.
3. Click on the **"Settings"** button. The "BARCO DPMS Screen Saver Control Panel" will open.
4. Select one of the default schemes from the "Current Scheme" drop down menu.
5. Set the Work Schedule by setting the beginning and ending time of your work day for each day of the week.

6. Select the screen saver you wish to use during the work day in the "Screen Saver During Work Day" section.
7. Select the amount of time you wish to spend in the Stand-By and Suspend states after the work day has ended. Please note that after the time specified has elapsed when you are in Stand-By or Suspend, you will automatically go into the Off state.
8. Select the amount of time it takes for your display to warm up. If you have a Barco Medical Display, select **"Barco Quick Start"**. If you are using a non-Barco display, select the amount of time it takes your display to warm up via the "Monitor Setting" section. Contact your display vendor for this warm-up time. On Barco CORONIS displays, the I-GUARD will stabilize the image within a few seconds after the display returns to the active state, thus eliminating the need for a warm-up period at the beginning of the work day.
9. If you wish to use this DPMS screen saver as the screen saver at logon time, check the **"Use As Logon Screen Saver"** box in the "Additional Options" section.
10. Save your preferences by pressing the **"Save As"** button and entering a new profile name in the **"Save Profile Setting"** dialog box.
11. Apply your new scheme by clicking **"OK"**.
12. Click **"OK"** again to close the "Display Properties Control Panel".

Installing or Reinstalling BARCO DPMS

To install or reinstall the BARCO DPMS Screen Saver insert the CORONIS Software CD in the appropriate device on your computer and run the BarcoMed Product Install Wizard (please see the section Software Installation for complete instructions).

Special Note: Reinstalling the BARCO DPMS Screen Saver will over write the DPMS configuration settings and you will need to reconfigure the DPMS settings on your system.

Uninstalling BARCO DPMS

To remove the BARCO DPMS Screen Saver from your system insert the Coronis 5MP Mammo Software CD in the appropriate device on your computer, run the BarcoMed Product Install Wizard and follow these steps.

1. Select *only* the DPMS Screen Saver on the BarcoMed Product Install Wizard's welcome screen and click **"Install"**.
2. Click **"Next"** on the Welcome Screen of the BARCO DPMS InstallShield Wizard to begin the installation.
3. Select the radio button next to **"Remove"** on the Program Maintenance screen of the Wizard and click **"Next"**.
4. Click **"Remove"** on the Remove Program Screen of the Wizard (figure 36 on page 74).

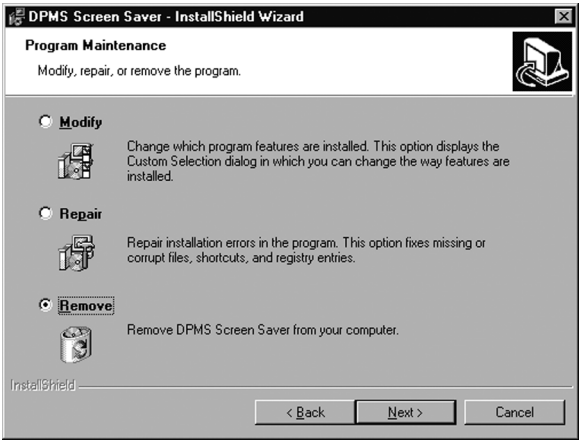
DPMS Screen Saver - InstallShield Wizard
Program Maintenance
Modify, repair, or remove the program.
Modify
Change which program features are installed. This option displays the Custom Selection dialog in which you can change the way features are installed.
Repair
Repair installation errors in the program. This option fixes missing or corrupt files, shortcuts, and registry entries.
Remove
Remove DPMS Screen Saver from your computer.
InstallShield
< Back
Next >
Cancel

Figure 36

5. When the Wizard has finished removing the program, click **"Finish"** on the InstallShield Wizard Completed Screen of the Wizard.
6. Click **"Quit"** to exit the BarcoMed Product Installation Wizard.

Coronis I-Switch Software

Overview

Note: The CORONIS I-Switch Software is only available for systems which have the Portrait Accelerator in the CORONIS Display Panel and BarcoMed Display Driver releases that include the CORONIS I-Switch Software. The CORONIS I-Switch Software may not be available for your system.

The CORONIS I-Switch Software is designed to detect changes in the physical orientation of the rotatable CORONIS flat-panel display(s) and to change the resolution of the display to match the physical orientation of the display. The CORONIS I-Switch Software will support up to eight CORONIS flat-panel displays on four BarcoMed Display Controllers. The CORONIS I-Switch Software supports Windows 2000 and Windows XP.

The CORONIS I-Switch Software is designed to react *only* to changes in physical orientation of the CORONIS flat-panel displays, not to changes in screen resolution effected from the Windows Display Control Panel. The CORONIS I-Switch Software functions only after the CORONIS Windows Display Controller Drivers have been installed, the resolution set using the Windows Display Control Panel and the CORONIS I-Switch Software has been installed.

CORONIS I-Switch Software has a limited user interface available through an icon in the system status tray. The system tray icon is just a toggle to put the service to sleep. During this sleeping phase, the Service will continue to track changes in the physical orientation. The service will use these saved settings to set the appropriate state model on startup.

Windows 2000 and Windows XP

Although Windows 2000 and Windows XP support multiple types of display controllers, they support only one resolution per display controller. Rotating a single head on any given BarcoMed Display Controller will affect both of the heads connected to that display

controller. If you change the physical orientation of one CORONIS display connected to any given BarcoMed Display Controller, the CORONIS I-Switch Software will change the resolution for both of the CORONIS displays connected to that BarcoMed Display Controller and you will need to change the physical orientation of the second display to match the orientation of the first display.

Installation or Reinstallation

To install or reinstall the CORONIS I-Switch Software insert the BarcoMed Software CD in the appropriate device on your computer and run the BarcoMed Software Install Wizard and select only the CORONIS I-Switch Software (please see the section Software Installation for complete instructions).

Removal of CORONIS I-Switch Software

To remove the CORONIS I-Switch Software from your system use the Windows **“Add/Remove Programs”** utility found in the Windows Control Panel.

Or you may remove the CORONIS I-Switch Software from your system by doing the following:

1. Click on the Windows **“Start”** button.
2. Click on **“Run"**.
3. Type the following text in the dialog box: **"cmd"**.
4. Click on **"OK"**.
5. Type the following text in the command line window: **“coronisrotationservice /uninstall”**
6. When the program has finished, closed the command line window.

Barco Display Tab

Introduction

The Barco Display Tab is used for gathering information about the BarcoMed Flat Panel Display(s).

To access the Barco Display Tab do the following:

1. Open the "Display Properties Control Panel" by right clicking on the **desktop**, then select **"Properties"**.
2. Under Windows® 2000 and Windows® XP, click on the "**Settings"** tab. Double click on the rectangle that represents the BarcoMed Display you are working with to bring up its properties page. Click on the **"BARCO Display"** tab (figure 37).

Figure 37: BARCO Display Tab under Windows® 2000 and Windows® XP

Using the Barco Display Tab

Displays

All of the available display controllers that are of the same type as the current barco display controller are shown here graphically, with one display icon representing each output of a display controller. The icon orientation reflects the display resolution. Only those outputs with a display attached to them are active. If an icon is grayed out, that indicates a output with no output attached to it. When running DualView under Windows 2000 and Windows XP the desktop *must* be extended to include each display, otherwise those outputs will not be visible to the Barco Display Tab.

Hovering the cursor over a display icon will pop up a window with information that identifies the display.

Properties

You may access the Properties page of the currently selected display, which is represented by the monitor icon above with the black frame around it, by either clicking on the **"Properties"** button or double clicking on the **icon**.

BarcoMFD library

This is the version of the barcomfd library currently used. This library provides APIs for interacting with the displays.

Coronis Display Properties

This screen (figure 38) shows properties of the currently active display.

Name: Displays the model name of the display.

Serial Number: Displays the serial number of the display.

Backlight RunTime: This is time in hours that the back light has been on. A common question is: How much longer will the backlight last? The

backlight will typically last a very long time, but will only be able to hold a calibrated output of 500 cd/m² for 17000 hours, after which time it will become slowly dimmer. For displays calibrated at 500 cd/m², an estimate of how long it will be before a backlight replacement is needed = 17000 hours – backlight age.

Firmware Revisions: This is the runtime firmware that is loaded in the display. This information may be helpful when there is a problem.

Internal Temperature: This is the temperature inside the display. It starts out at about the ambient temperature when the display backlight is first turned on, then rises slowly to a steady-state temperature as the display warms up. Changes in light level due to temperature variations are completely controlled by the I-Guard sensor on the front of the display.

Current Luminance Value: This is the current luminance value of the display. It may vary a bit from time to time, for the display continuously calibrates itself to meet the target luminance value.

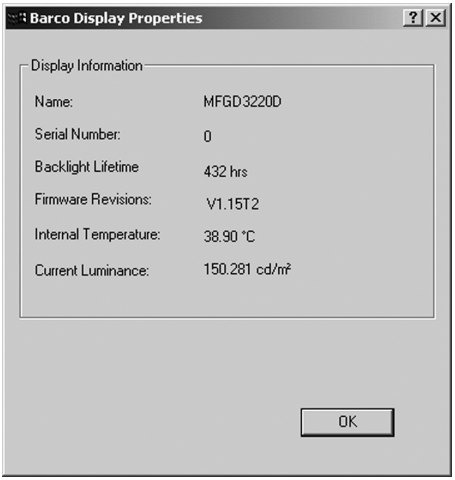

Figure 38

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Display operation

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Display operation

Operating precautions

Continuous operation of the display with the same image may result in some image sticking on the LCD panel. Over 10 hours operation with the same image content is not recommended.

Switching on DPMS on display and PC and activating a good screen saver may decrease the risk of image sticking (image retention).

Stand-by switching

When the display is on and no on-screen display is visible, push and hold the control wheel at the front for a few seconds to switch the display in stand-by. The LED turns orange.

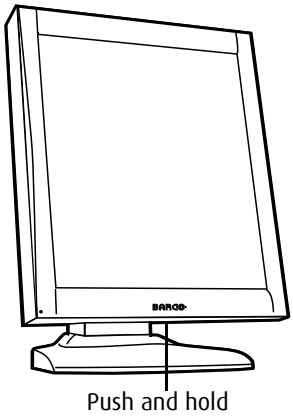


Figure 39

When the display is in stand-by, press the control wheel to switch it back on.

About the On-Screen Display (OSD)

About the on-screen display

The on-screen display (OSD) has a hierarchical tree structure, with several levels. The top level is the “Main Menu”.

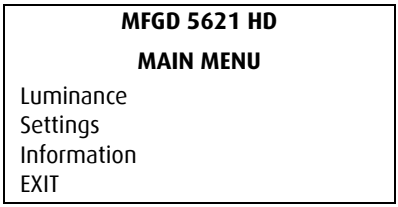


Figure 40: Main menu in standard mode

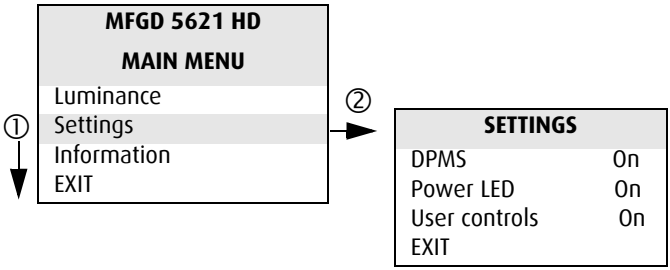
The OSD can be used in standard and advanced mode. The OSD appears default in standard mode. For instructions about the advanced mode, please refer to the section “Advanced display operation” on page 89.

How to navigate through the OSD

1. When the OSD is not on the screen, rotate the control wheel to display the OSD.

   The main menu appears.

2. To enter into a menu: First, rotate the control wheel to select the desired menu. Next, press the wheel shortly.



1. Rotate the control wheel
2. Press the control wheel

Figure 41: OSD menu navigation

3. To exit from a menu, rotate the control wheel to select EXIT.

   If you exit from the Main Menu, you exit the OSD.

4. To change an adjustment value (e.g., the luminance value), rotate the control wheel to select the adjustment and press the wheel shortly.

   The adjustment name appears, as well as the current adjustment value. Rotate the wheel to change the value.

   When done, press the wheel shortly to confirm the change and return to the menu.

5. To select a value from a predefined list (e.g., in Settings), rotate the control wheel to select the setting and press the control wheel until the desired value appears.

Locking and unlocking user controls

The User Controls function allows to disable or enable the control wheel functions.

When user controls are disabled, you cannot:

- display and use the on-screen display

- switch the display in stand-by mode

To disable user controls:

1. Rotate the control wheel to display the on-screen display. The Main Menu appears.
2. Rotate the control wheel to select **Settings**.
3. Press the control wheel to enter the Settings menu.

SETTINGS	
DPMS	On
Power LED	On
User Controls	On
EXIT	

Figure 42: Settings menu

4. Rotate the control wheel to select **User Controls**.
5. Press the control wheel to switch from "On" to "Off".
6. Exit the menus.

To enable user controls:

1. Do not use the control wheel for at least 3 seconds.
2. Rotate the control wheel 1 step clockwise.
3. Press the control wheel 2 times.
4. Rotate the control wheel 1 step counterclockwise. The on-screen display appears.

   Note: Steps 2 to 4 must be performed in maximum 3 seconds.
5. Rotate the control wheel to select **Settings**.

6. Press the control wheel to enter the Settings menu.

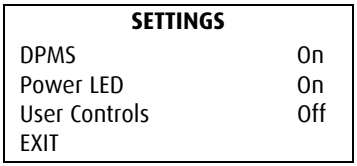


Figure 43: Settings menu

7. Rotate the control wheel to select **User Controls**.
8. Press the control wheel to switch from “Off” to “On”.
9. Exit the menus.

Complete OSD overview

Main menu

Name	Description
Luminance	Adjust the target luminance to which the display will be stabilized.
Settings	Change settings for DPMS, Power LED and User Controls
Information	Read information about the display

Luminance

Name	Description
Luminance Target	Manually adjust the luminance. The luminance is indicated in cd/m² (nit).

Luminance Target adjusts the overall luminance (light output) of the *display*. It does not affect the grayscales of the image on the screen.

Settings

Name	Description
DPMS	Switch on/off the automatic power saving system (DPMS)
Power LED	Switch the power LED on/off. Note: The LED's orange DPMS state is not influenced by this setting. So, when the display goes into power-saving mode, the LED will turn orange, even if it was switched off by this setting.
User Controls	Disable the control wheel functions

Information

Name	Description
Product	The display type
Serial No	Indicates the display serial number
SW Version	Displays the current internal software version
Display Lifetime	Indicates the total time the display has been operating, including the time in stand-by
Backlight Lifetime	Indicates the total time the display has been operating, excluding the time in stand-by

Advanced display operation

Introduction

Important

The functions described in this chapter are intended for trained service staff only!

Improper use of these functions may cause the display to not function correctly. Barco cannot be held responsible for the results or damage caused by improper use of these functions.

About the Advanced functions

The advanced functions are extensions of the standard OSD.

By default, a user browsing through the OSD sees only the standard functions. When logged in in advanced mode, the user sees the standard and advanced functions in the OSD menus.

To log in as advanced user:

1. Enter the main menu.
2. Rotate the control wheel to select the menu item EXIT.
3. Press and hold the control wheel for a few seconds until the OSD main menu is refreshed on the screen.

You have now logged in as advanced user.

Advanced functions in the Luminance menu

Manual Backlight

This function allows to manually control the backlight luminance.

When you control the Manual Backlight function, the Luminance target function and I-Guard control are disabled.

Important:
Disabling the I-Guard results in an uncalibrated and not stabilized backlight.

After switching the power off and on again, the Luminance target and I-Guard control are activated again. This is also the case when you control the Luminance function again.

Advanced functions in the Settings menu

PPU

When switched on, the Per Pixel Uniformity system is activated, adjusting the luminance output at pixel level and eliminating screen noise.

Panel position

Click to select the desired option:

- Auto: Select if the display will be used in both portrait and landscape orientation.
- Portrait: Select if the display is always used in portrait orientation.
- Landscape: Select if the display is always used in landscape orientation

Auto Rotation

When switched on, the image will be rotated automatically when switching between portrait or landscape orientation.

DVI Input

Click to switch between normal DVI signal, Dual10 DVI signal or automatic detection of the DVI format.

DVI Link

Click to switch between single link (Single) and automatic detection of single or dual link (Auto).

Stabilizer

Click to switch the backlight stabilizer on/off

Patch

Click to hide/display the I-Guard patch. When you hide the patch, the I-Guard will not function properly anymore

Important:

Disabling the I-Guard results in an uncalibrated and not stabilized backlight.

Burn-In Mode

When switched on, the display will generate a white image when the video cable is unplugged

Advanced functions in the Information menu

Service

The Service information menu contains the following items:

Name	Description
Display Name	The display type
Display Ser No	Indicates the display serial number
Display Stock No	Indicates the display order number
Panel Ser No	Indicates the flat panel serial number
Panel Prod Date	Indicates the flat panel production date

Firmware

The Firmware information menu contains the following items:

Name	Description
Boot Code Version	The version of the internal boot code
Run Code Version	The version of the internal run code
CPLD Code Version	The version of the internal CPLD code
Transpose Version	The version of the internal Transpose circuit code

Runtimes

Runtimes is a submenu from General Information, containing the following items:

Name	Description
Display Lifetime	Indicates the total time the display has been operating, including the time in stand-by
Backlight Lifetime	Indicates the total time the display has been operating, excluding the time in stand-by
Backlight Runtime	Indicates the time the backlight has been on since the last time it was switched off (e.g., in stand-by). This counter stops after 1092 minutes.

Measurements

Name	Description
Internal Temperature	The temperature measured inside the display
Sensor Temperature	The internal temperature measured on the I-Guard board
FAN speed	A value indicating the speed of the fans. Minimum speed is 0, maximum speed is 1000
Sensor Y value	The luminance measured by the I-Guard, expressed in cd/m²(nit)
Sensor Raw value	The luminance measured by the I-Guard, expressed in DAC values

Scan measurements

Name	Description
DVI Input:	The current DVI input format
DVI Link	The current DVI link setting
Resolution:	The resolution of the current input signal
Clock Frequency:	The current clock frequency
Hor.Total:	The total number of dots, horizontally, of the input signal
Hor.Active:	The number of active dots, horizontally, of the input signal
Hor.Blanking:	The horizontal blanking of the input signal
Hor.Front Porch:	The horizontal front porch of the input signal
Hor.Sync:	The horizontal sync length of the input signal

Name	Description
Hor.Back Porch:	The horizontal back porch of the input signal
Hor.Frequency:	The horizontal frequency of the input signal
Vert.Total:	The total number of lines, vertically, of the input signal
Vert.Active:	The number of active lines, vertically, of the input signal
Vert.Blanking:	The vertical blanking of the input signal
Vert.Front Porch:	The vertical front porch of the input signal
Vert.Sync:	The vertical sync length of the input signal
Vert.Back Porch:	The vertical back porch of the input signal
Vert.Frequency:	The vertical frequency of the input signal

Advanced functions in the Adjustments menu

In Advanced mode, the main menu contains an additional menu, Adjustments. This menu contains the submenu Miscellaneous.

Miscellaneous Adjustments

The Miscellaneous adjustments are intended for internal purposes only. Adjusting them will have no result.

The Miscellaneous menu contains the following items:

Name	Description
RS232 Address	Rotate the control wheel to change the internal display address.

Cleaning instructions

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Precautions

Precautions

- Take care not to damage or scratch the glass or LCD panel.
- Do not apply pressure on the glass or LCD panel.
- Do not apply or spray liquid directly to the glass, panel or cabinet as excess liquid may cause damage to internal electronics. Instead, apply the liquid to the cleaning cloth.
- DO NOT USE:

- Lye or cleaning solutions containing lye*
- Acid
- Detergents with fluoride
- Detergents with ammonia
- Detergents with abrasives
- Steel wool
- Sponge with abrasives
- Cloth with thread made of steel
- Other coarse tools

*(Lye is a strong caustic alkaline solution of potassium salts.)

Front glass

Proceed as follows:

- Clean the glass using a soft cotton cloth, lightly moistened with a watery solution or a mild commercial glass-cleaning product suited for coated glass surfaces.
- Wipe dry with a dry cloth.

Cabinet

Proceed as follows:

- Clean the cabinet using a soft cotton cloth, lightly moistened with a recognized cleaning product for medical equipment.
- Repeat with water only.
- Wipe dry with a dry cloth.
- The cabinet has been tested for resistance to the following products:

Cidex, Betadine, Alcohol (Isopropyl and Ethyl), Ammonia-based cleaners (Windex) and Aquasonic Gel.

LCD panel

It may be possible that dust particles have entered the display and are stuck behind the front glass.

We recommend to let this cleaning procedure be done in a BARCO service center. **The product warranty expires when the user removes the glass panel or otherwise opens the display.**

However, when really necessary, you can perform the cleaning on site if you can work in dust-free conditions. This is to avoid more dust entering the display when opening it.

To remove the glass panel:

Figure 44

1. Switch off the display.
2. Tilt the panel.
3. Unscrew the 4 sunken screws at the rear, fixing the glass panel and bezel (figure 44).

Carefully take the glass panel a few centimeter from the display. It is still connected to the rest of the display by means of the LED connection.

5. Unplug the LED connection (figure 45).

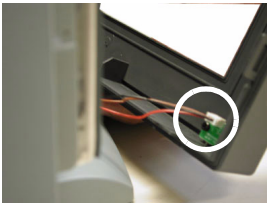

Figure 45

To clean the LCD panel:

- Take care not to touch the I-guard light sensor on the LCD panel.
- Dust particles on the LCD panel may be blown away by using a dust remover. E.g., DUST OFF 67 (KONTAKT Chemie).

A dust remover is composed of a blend of compressed liquid gases functioning as propellant. They provide a jet of dry inert gas that acts like compressed air for a quick and safe removal of dust particles and other dry contaminants on the surface of the lcd panel or the glass panel.

Attention: The dust remover contains a liquid gas. If you shake the can or move the can too fast while spraying, you may blow drops of liquid on the panel surface!

If this is the case, clean the panel as described below.

- If the LCD panel is dirty or wet, clean the panel using a lint-free, nonabrasive cloth, lightly moistened with a solution of 25% Isopropyl Alcohol (IPA) and 75% de-ionized or distilled water. E.g.: Cleareen, a product of Certified Laboratories.
- Take another clean, dry, soft, lint-free cloth and gently wipe the glass dry.

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Troubleshooting

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General tips

- If one display from a multi-head system exhibits problems, try to eliminate the problem by switching video cables or power supplies. In that way you can find out if the problem resides in the display or not.

Problems and solutions

Problem description	Possible tests or solutions
Screen remains black	• Please check the installation procedure in this manual • If the LED at the front is orange, the display is in stand-by • Check in the Windows Display Properties if the display controller video heads are attached. If not, there will be no image on the screen. • The internal power supply may be defective
Image exhibits noise or interference	• The video cable may be of poor quality • DVI video cable may not be firmly connected to the PC or to the display
Image contains missing pixels	• A number of missing pixels may be normal (inherent in LCD technology)
Image contains not enough grayscales	• You may have installed the driver software with an inappropriate selection of Palette Settings (Static Gray with or without System Colors). Install the driver software again using a different setting for Palette Settings.

Problem description	Possible tests or solutions
The PC does not start up	• Check the CMOS settings in the PC BIOS • The display controller may not be firmly seated in the PCI / AGP connector
No image during PC start-up	• Check the VGA jumper settings on the display controller • Check the CMOS settings in the PC BIOS
Nothing happens when you press or rotate the control wheel	• The User Controls may be disabled. Please read the paragraph about the “User Controls” function.
The image is non-proportionally spread out over the screen	• Select another resolution in the Windows “Display Properties” control panel
The image on the screen is rotated 90°	• Select another resolution in the Windows “Display Properties” control panel
The previous image remains slightly visible on the screen	• This phenomenon, called “image sticking” is normal if the same image has been on the screen for a long time. The ghost image will disappear after some time. Over 10 hours operation with the same image content is not recommended. Switching on the display DPMS may decrease the risk of image sticking. • A slight case of image sticking can be solved by continuously displaying a full white image during a number of hours.

Problem description	Possible tests or solutions
On a dual-head system, the images on the left and right display seem to be switched	• Switch the video cables at the display controller or at the display video inputs

BarcoMed Hardware Tab

Introduction

The BarcoMed Hardware Tab is used for gathering information about BarcoMed display controller(s). For all BarcoMed display controller(s) it will display PCI information. For BarcoMed display controller(s) based on the AURA video chipset it will also display information about the Firmware installed on the board.

Table 2:

AURA Controllers	Non-AURA Controllers	BarcoMed Hardware Tab Support
BarcoMed Nio		PCI and Firmware Information
BarcoMed Coronis		PCI and Firmware Information
BarcoMed 1MP2FH		PCI and Firmware Information
	BarcoMed 2MP1	PCI Information Only
	BarcoMed 2MP1NT	PCI Information Only
	BarcoMed 2MP2	PCI Information Only
BarcoMed 2MP2H		PCI and Firmware Information
	BarcoMed 2MP2CF–3D	PC and Firmware Information
	BarcoMed 2MP2CP	PCI and Firmware Information
BarcoMed 2MP2FH		PCI and Firmware Information

Table 2:

AURA Controllers	Non-AURA Controllers	BarcoMed Hardware Tab Support
BarcoMed 3MP2FH		PCI and Firmware Information
	BarcoMed 5MP1H	PCI Information Only
BarcoMed 5MP1HM		PCI and Firmware Information
	BarcoMed 5MP2	PCI Information Only
BarcoMed 5MP2 AURA		PCI and Firmware Information
BarcoMed Coronis 5MP		PCI and Firmware Information
BarcoMed 5MP2F		PCI and Firmware Information
BarcoMed 5MP2FH		PCI and Firmware Information

Using The BarcoMed Hardware Tab

To access the BarcoMed Hardware Tab do the following:

1. Open the "Display Properties Control Panel" by right clicking on the **desktop**, then select **"Properties"**.
2. Click on the **"Settings"** tab. Double click on the **rectangle** that represents one of the heads of the BarcoMed Display Controller you are working with to bring up its properties page. Click on the **"BarcoMed Hardware Tab"** (see figure 46 on page 110).

Figure 46 BarcoMed Hardware Tab under Windows 2000 or Windows XP

Device

Displays the current BarcoMed display controller, driver, and the currently selected display resolution.

Identify Device: This button is for BarcoView Medical Imaging Systems (MIS) internal use only and is grayed out.

PCI Information

Device ID: Displays the device's PCI Device ID number.

Vendor ID: Displays the device manufacturer's PCI Vendor ID number.

Subsystem ID: Displays the device's PCI Subsystem ID number.

SubsystemVendorID: Displays the device's PCI Subsystem Vendor ID number.

VGA Status: Displays whether the VGA capabilities of the BarcoMed controller are enabled or disabled.

Firmware Information

Product Name: Displays the name of the BarcoMed display controller installed in the selected PCI slot.

Serial Number: Displays the serial number of the BarcoMed display controller installed in the selected PCI slot.

VGA Bios Version: Displays the VGA Bios version for the BarcoMed display controller installed in the selected PCI slot.

Firmware Version: Displays the firmware version for the BarcoMed display controller installed in the selected PCI slot.

Hardware Version: Displays the Hardware Version for the BarcoMed display controller installed in the selected PCI slot.

"Advanced ..." Button: By clicking on this button, the user can display more information about the BarcoMed display controller installed in the selected PCI slot.

Utilities

"Generate Report" Button:

Clicking this button will launch the BarcoMed Self Exam utility. BarcoMed Self Exam is an automated Barco Diagnostic Tool that is used to gather the information that support engineers and technicians need to help

determine the root cause of a customer problem. It probes the system for various types of system information, and saves it to a web-page report that can then be analyzed by the Barco ImageCare team.

BarcoMed Self Exam is implemented in a Wizard Format. The BarcoMed Self Exam Wizard will first ask the user to provide detailed customer contact information. After completion of the customer contact information screen, the Wizard will then ask the user to provide a description of the problem, and prompt the user to enter the Medical Viewing Applications that they are using. The Wizard will then automatically collect the diagnostic information from the user's system. When completed, the Wizard will alert the user of completion and open the report. The report is saved in html format in one of two locations:

English Version of Windows®

Report will be on the desktop

Non-English Version of Windows®

Report will be in the user's directory in a folder named "desktop".

Languages Supported

BarcoMed Self Exam is currently available to run in English, German, Dutch, Japanese[1] and Simplified Chinese[1]. The application will detect the regional settings on the user's machine and switch languages accordingly. The default language is English.

Welcome Screen

The Welcome screen reminds the user to close all applications before starting the wizard. The screens that follow guide the user through gathering pertinent diagnostic data that will help in determining the root of the problem.

1. Japanese and Simplified Chinese language support requires that both the Locale and Default System Locale need to be set to Japanese with the Japanese language pack installed. These are set in the Regional Options tool of the Windows Control Panel.

Customer Information Screen

All fields on this screen **must** be filled in. This screen asks the user for contact information that will help the Barco support team contact the customer. The user will not be allowed to move forward to the next screen unless all of the fields are filled in.

Customer Diagnostic Questions Screen

This screen allows the user to tell the Barco ImageCare team as much as possible about the problem. For the Medical Viewing Applications Running field, enter the medical applications that are currently running on the system with the problem. For the "Any Applications using DIMPL" question, select the **"radio button"** that applies to the correct response. For the "Detailed Description" field, **enter a detailed description of the problem**. And, for the Additional Notes field, enter any information that could help the Barco ImageCare team diagnose the problem.

Gathering Diagnostic Data Screen

Important: When performing the Graphics Operations, you must drag the **"Gathering Diagnostic Data Screen"** onto the display for which you want the Graphics Operations data.

This screen gathers the diagnostic data from the user's system as described above in this document. Click the **"Start Diagnostic"** button to begin the diagnostic gathering process.

To perform the graphics operations test, check the graphics operations checkbox. During the graphics operations test, several things will happen to the screen. Each graphics operation is performed for 10 seconds. To quit the graphics operations test at any time, press the Escape button.

To create a summary report for QA purposes, check the summary report checkbox. If this box is checked, an additional report will be saved on the desktop called BarcoExamSummary.txt.

Please let the wizard gather all of the data, the **"NEXT"** button will be enabled only after all of the information is gathered. Once the

information is gathered, the user may **not** go back in the wizard screens.

Completion Screen

The BarcoMed Self Exam has collected all of the information. A report called BarcoSelfExam.html with all of the diagnostic data that was collected is created. If a summary report was created, it is called BarcoExamSummary.txt. The reports are saved in one of two locations:

English Version of Windows®

Report will be on the desktop

Non-English Version of Windows®

Report will be in the user's directory in a folder named "desktop".

Note: The absolute path to the location of the BarcoMed Self Exam reports is:
under Windows 2000 and Windows XP

C:\Documents and Settings\<username>\Desktop

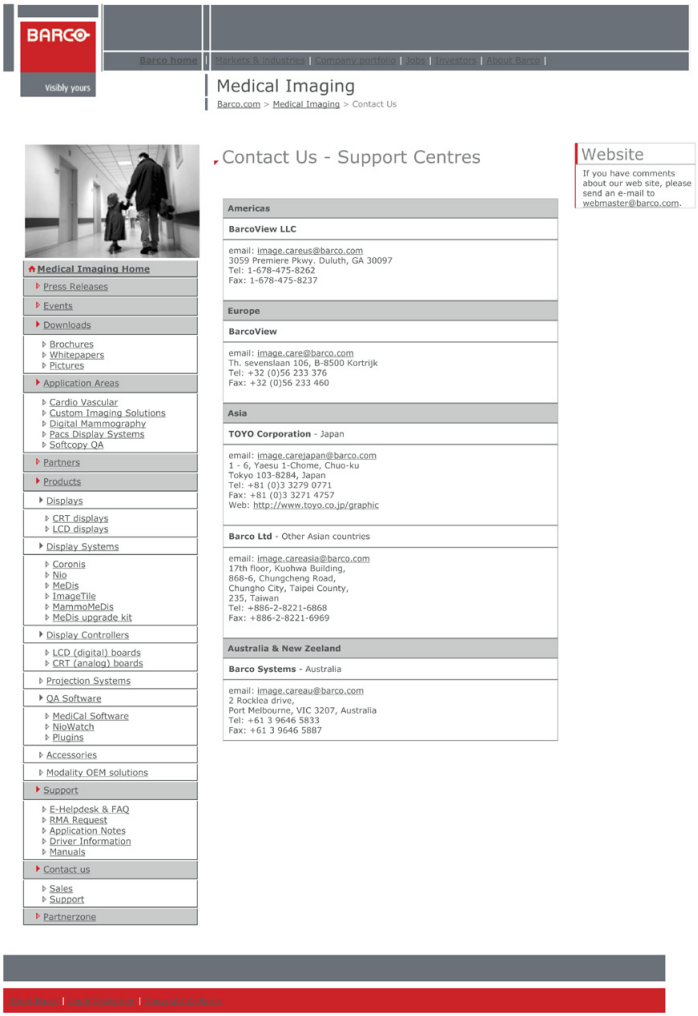
Submitting the Data to Barco Support

Once BarcoMed Self Exam has collected the data, the user can submit it to ImageCare, Barco Medical Imaging Systems' customer support organization by email. To do this you need a system with access to the World Wide Web.

1. Enter the following address in your Web browser's address bar: http://www.barco.com/medical/
2. In the left hand column click on **"Contact us"**
3. Then click on "**Support"** in the drop down menu.
4. Find the appropriate ImageCare Center for your country and click on the **email link**.
5. Enter a **subject and a brief message** describing the problem about which you are requesting help.

6. Attach the **BarcoMed Self Exam report(s)** to the email message and send it.

You will receive an acknowledgment of receipt of your email by the end of the next business day.



Update Device... Button:

Clicking this button will launch the BarcoMed Hardware Configuration utility. This program allows the user to flash update the firmware stored in the ROM of the currently selected BarcoMed display controller. The BarcoMed Hardware Configuration utility is implemented in a Wizard format, which guides the user through the flash update procedure. The user will be prompted to select a firmware update file to use for the update process. This file will be provided by BarcoView MIS if and when a firmware update is required.

Display resolution

If you are using a color display in conjunction with your Barco grayscale display(s) you should configure your desktop before setting the resolution of the your Barco grayscale display(s).

Configuring the Windows 2000 or Windows XP desktop

Under Windows 2000 or Windows XP the recommended configuration for best grayscale image quality when using a color display in conjunction with your high-resolution grayscale display(s) is to set the *color display* as the **primary** monitor. Then set the colors setting on the "Settings" tab of the Windows Display Control Panel to the highest possible color depth (e.g. 32 bits-per-pixel "true color") supported by the color display's controller.

The colors setting for your high-resolution grayscale displays should default to 256 colors (8 bits per pixel). The **palette mode** for the your high-resolution grayscale displays should be set to *Static Gray palette with NO system colors*. This guarantees that the all of the 256 gray levels available for GDI graphics will be present, and also eliminates the danger that colors will change when focus moves among different applications.

However, if you are using the *Color to Gray Conversion* palette mode, the color setting for your high-resolution grayscale displays should default to True Color (32 bits per pixel). Even though this palette mode supports 32 bit True Color, we recommend that when using a using a color display in conjunction with your high-resolution grayscale display(s) that you still set the *color display* as the **primary** monitor.

Setting the resolution of your Coronis 5MP Mammo display

In order to set the resolution of your Coronis 5MP Mammo display you must be logged in using an account with administrator privileges.

1. To set the resolution of your Coronis 5MP Mammo display(s) **right click** on the desktop and **select** *"Properties"*.
2. **Select** the *"Settings"* tab.
3. **Select** the *rectangle* that represents the first Coronis 5MP Mammo display attached to the BarcoMed 5MP2FH Display Controller you are working with.

NOTE: If you are using the VGA capabilities of your BarcoMed 5MP2FH Display Controller, the resolution for the first display may be set to a VGA resolution of "640 x 480" pixels with 16 colors and a default refresh rate. If your BarcoMed 5MP2FH controller is not running VGA, the display may not be enabled yet. To enable the display, **check** the *"Extend my Windows desktop onto this monitor"* checkbox, but do **NOT** click the *"Apply"* button at this time.

If you installed your BarcoMed 5MP2FH drivers in *SingleView* mode (default for Windows 2000) there will be one rectangle for the virtual display representing the two heads controlled by each BarcoMed 5MP2FH display controller.

If you installed your BarcoMed 5MP2FH drivers in *DualView* mode (default for Windows XP) there will be a rectangle representing each head controlled by each BarcoMed 5MP2FH display controller. This will be true even if you have only one display connected to your BarcoMed 5MP2FH controller. Both displays of a display controller cannot be enabled at the same time unless their display properties match. If necessary detach the second display of the BarcoMed 5MP2FH Display Controller you are working with by **right clicking** on the rectangle that represents it, **deselect** *"Attached"* and **click** the *"Apply"* button.

Tip: Since Windows 2000 and Windows XP will not let you detach the primary display connected to a particular controller, you may need to temporarily make another display the primary display

Caution: if you have a single display configuration and you have enabled DualView, Windows will not allow you to attach the second head. This is normal and not a bug.

4. For the display which is still attached **click** on the *"Advanced"* Button.
5. **Select** the *"Adapter"* tab and then **click** on the *"List All Modes"* button. Select the resolution and refresh rate that your Coronis 5MP Mammo display supports from the dialog box and **click** *"OK"*.

Tip: In the Adapter box, the Adapter string shows if this display is the First View or the Second View attached to the Display Controller. Please make a note of this, so that you can arrange the displays in the correct order later if necessary.

6. **Click** *"OK"* on the bottom of the Adapter Control Panel. If the *"OK"* button on the bottom of the Adapter Control Panel is not visible, **press** the *"TAB"* key once and then **press** *"CTRL"+"Enter"* to select *"OK"*.
7. **Click** *"OK"* in the "Windows will now apply your new desktop settings" dialog box. Your Coronis 5MP Mammo display should now synchronize and display the Windows desktop.
8. **Click** *"Yes"* when asked, "Your desktop has been reconfigured. Do you want to keep these settings?"

To set the resolution of the second display attached to the BarcoMed Display Controller you are working with, go back to the "Settings" tab of the "Display Properties Control Panel". Attach the display you detached in step 2 above, by **right clicking** on the rectangle that represents it and **selecting** *"Attached"*.

Note: Now repeat steps 5 - 8 above for this display.

If you are using a Quad-Head Configuration repeat all of the above steps for the two displays on the second display controller.

Tip: After installing DualView and setting the resolutions in a Quad-Head Configuration you may need to drag the heads into the proper position in the window on the “Settings” tab, so that the arrangement in the window on the “Settings” tab matches the physical arrangement of your configuration.

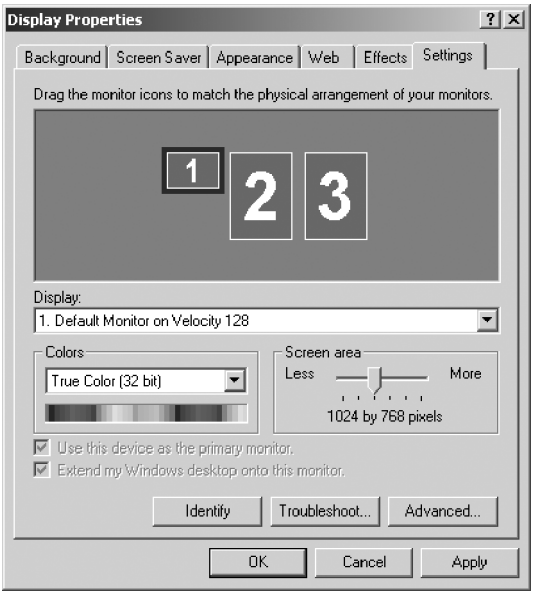


Figure 47: The Windows Display Properties Control Panel Settings Tab after the drivers have been installed and the resolution set with DualView Enabled.

Note: The system shown in figure 47 above is a dual-head, single BarcoMed 5MP2FH Display Controller, with a 3rd party VGA controller configuration. Your system may look different.

Driver Re-installation, updates or removal

Reinstalling or Updating your BarcoMed 5MP2FH Driver

Caution: If you previously uninstalled the driver, do **not** allow Windows' Plug and Play software to reinstall the driver for you.

To reinstall or update only the BarcoMed 5MP2FH Driver, follow the steps described in the section **"Using the BarcoMed Product Installation Wizard"** with the following changes.

1. Boot your system, and log in using an account with administrator privileges.
2. Insert your Coronis 5MP Mammo Software CD into your computer's CD drive. If the **"BarcoMed Product Installation Wizard"** doesn't start within one minute, browse the contents of your Coronis 5MP Mammo Software CD and double click on the file: **"Setup.exe"** to start the wizard.

   The wizard will begin by displaying the screen shown in figure 48 on page 122.

Figure 48

3. To update the driver, clear the checkbox next to **"DPMS Screen Saver"** and "**I-Switch" (**figure 49) and click **"Install"**.

Figure 49

4. Please turn to Step 6 on page 46 in the section titled **"Driver Installation"** and follow the instructions to finish reinstalling or updating your BarcoMed 5MP2FH driver.

When the driver has finished installing, click **"Finish"**. Then click **"Finish"** again.

Reboot the system when prompted and then reset the resolution of your displays if necessary.

Uninstalling the BarcoMed 5MP2FH driver

To remove the BarcoMed 5MP2FH display controller driver from your system you must be logged in using an account with administrator privileges.

Uninstalling the BarcoMed 5MP2FH driver

1. Insert your BarcoMed 5MP2FH Software CD into your computer's CD drive. If the **"BarcoMed Product Installation Wizard"** doesn't start within one minute, browse the contents of your Coronis 5MP Mammo Software CD and double click on the file: **"Setup.exe"** to start the wizard.
2. The BarcoMed Product Installation Wizard will display its welcome screen.
3. Make certain that the checkbox next to the driver is checked and that all other checkboxes are unchecked (see figure 50 on page 124). Click **"Install"** to continue.

Figure 50

4. Click **"Next"**.

5. On the next screen (figure 51), **check** the checkbox next to "Uninstall this device" and click **"Next"** to continue.

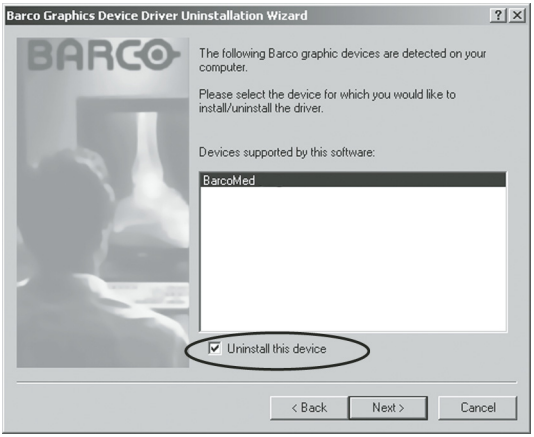

Barco Graphics Device Driver Uninstallation Wizard
BARCO
The following Barco graphic devices are detected on your computer.
Please select the device for which you would like to install/uninstall the driver.
Devices supported by this software:
BarcoMed
Uninstall this device
< Back
Next >
Cancel

Figure 51

6. Click **"Next"**.

7. If you installed your driver with DualView enabled, skip to step 8.

If you installed your driver with DualView disabled, click **"Next"** to continue. Then click **"Finish"** to complete the uninstall process. Click **"Finish"** again to exit the wizard. Click **"Yes"** if Windows tells you that "you must restart your computer before the new setting will take effect".

8. If you have installed your driver in DualView mode the wizard will warn you that you must first disable DualView by rebooting and then run the uninstall program again.

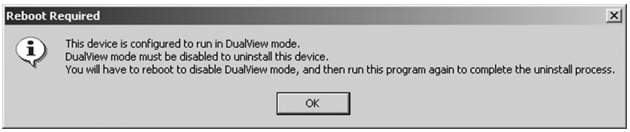

Reboot Required
This device is configured to run in DualView mode.
DualView mode must be disabled to uninstall this device.
You will have to reboot to disable DualView mode, and then run this program again to complete the uninstall process.
OK

Figure 52

Click **"OK"** to continue.

9. Click **"Reboot"** to disable DualView, click **"Finish"** to exit the wizard and then click **"Yes"** to reboot your system.

When your system restarts, log in again using an account with administrator priveleges. DualView should now be disabled.

11. The **"BarcoMed Product Installation Wizard"** should automatically restart. Finish uninstalling the driver by clicking **"Next"** three times. Then click **"Reboot", "Finish"** and **"Yes"**.

If the **"BarcoMed Product Installation Wizard"** doesn't automatically restart, finish uninstalling the driver by restarting the **"BarcoMed Product Installation Wizard"** by browsing the contents of your Coronis 5MP Mammo Software CD and double clicking on the file: **"Setup.exe"**. Then follow Steps 3 through 7 on page 4 and page 6 to finish uninstalling the driver.

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Technical Information

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Technical specifications

MFGD 5621 HD::

Item	Specification
Picture panel	21.3-inch Dual Domain IPS
Resolution	Native: 2560 x 2048
Display area (H x V)	422.4 x 337.92 (mm)
Viewing angle (@ 10/1 contrast)	Vertical: 170° Horizontal: 170°
Pixel Pitch	0.165 mm (H) x 0.165 mm (V)
Native resolution	8 bits / sub-pixel
Luminance	600 cd/m² (calibrated)
Contrast ratio	600/1 (on/off in dark environment)
Response time	27 ms typical (@ 25° C after 30 min warm-up)
Controls	Push / turn control wheel for stand-by switching and OSD controls
Input connectors	DVI dual channel
Signal systems	DVI Digital Complying to DVI Rev 1.0 specifications
USB standard supported	USB 1.1 USB hub only
Power source	Internal power supply: 90 ~ 264 VAC
Power consumption	72 watts (max., at 100 VAC, maximum backlight, USB load)

Item	Specification
Dimensions (W x H x D)	In perpendicular vertical position, highest position, tilt = 0°, swivel = 0°: 371 x 444 x 90 mm
Net weight	13 kg
Operating Temperature	0°C to 40°C, 15°C to 35°C within specs
Storage Temperature	-20°C to 60°C
Humidity	8% - 80% (non-condensing) for operation 5% - 95% (non-condensing) for storage

Connector pin assignments

DVI connector:

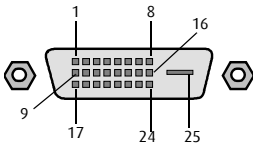

Figure 53: DVI connector pin layout

Pin no.	Signal	Pin no.	Signal
1	TMDS DATA 2-	14	+5V POWER
2	TMDS DATA 2+	15	GND
3	GND	16	HOT PLUG DETECT
4	NC	17	TMDS DATA 0-
5	NC	18	TMDS DATA 0+
6	DDC CLOCK	19	GND
7	DDC DATA	20	NC
8	NC	21	NC
9	TMDS DATA 1-	22	GND
10	TMDS DATA 1+	23	TMDS CLOCK-
11	GND	24	TMDS CLOCK+
12	NC	25	GND
13	NC		

Glossary

Calibration

Each display is calibrated in the factory before it is sent to the customer. After this calibration, black and white luminance are set to the ideal level.

A stabilization routine, constantly active when the display is on, keeps these levels constant using the built-in sensor.

Display Controller head

A display controller (graphics board) converts the digital data from the computer into digital or analog video voltages.

Most of the common display controllers contain just one set of video and sync outputs. However, some high-end boards, like some of the BarcoMed boards, contain two sets of video and sync outputs. This is called a dual head display controller. It is like two complete display controllers implemented on one single unit.

A dual head board in the computer behaves exactly as if two separate boards were installed.

DICOM

DICOM stands for Digital Imaging and Communications in Medicine. It is a standard developed by the American College of Radiology (ACR) and the National Electrical Manufacturers Association (NEMA).

The standard specifies how digital image data can be moved from system to system.

In addition, Supplement 28 Part 14 specifies a function that relates pixel values to displayed Luminance levels and is called Grayscale Standard Display Function.

Warranty Statement

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ARTICLE 1: SERVICES

BarcoView warrants that the equipment will be free of defects in workmanship or material for the warranty period.

Notwithstanding the provisions of clause 2, repair and replacement of defects in material and/or workmanship under this warranty shall be accomplished in our works in the following manner:

1.1 The Customer, upon the occurrence of any equipment failure, shall contact BarcoView Customer Support Center (or an authorized service center) by telephone, fax or e-mail and shall provide the applicable Customer Support person with a complete description of the problem being encountered, including the model and serial number of the equipment in which the problem has arisen.

1.2 The Customer Support person shall diagnose the problem experienced by the Customer and shall advise the Customer on how to proceed. Customer Support may ask to return the faulty equipment or faulty subassemblies to the BarcoView Customer Support Center (or an authorized service center) for repair activities. The Customer shall ask for a RMA or RAN number to a BarcoView Customer Support Center (or an authorized service center).

1.3 The Customer shall return, freight prepaid, the defective equipment or subassemblies for repair to the BarcoView Customer Support Center (or an authorized service center).

1.4 Replacement parts used shall be new or equivalent to new parts for the revision level of the equipment. The warranty period for the replacement parts will expire at the same moment as the original warranty period of the equipment. All parts replaced hereunder and returned to BarcoView (or an authorized service center) shall become the property of BarcoView (or the authorized service center).

1.5 The repaired equipment shall be returned to the Customer, by regular freight, at BarcoView's charge.

ARTICLE 2: ITEMS EXCLUDED FROM WARRANTY

The warranty described herein shall not include the following:

2.1 Any hardware or software item procured from a source other than BarcoView or their official agent or distributor and integrated by Customer or a third party into BarcoView supplied equipment.

2.2 Any host configuration not explicitly supported by BarcoView.

2.3 All software installed on the system, whether they are acquired from BarcoView or third party. An exception is made for software delivered by BarcoView that would prove to be a cause for the malfunctioning of the hardware covered under this Agreement.

2.4 Normal wear and tear, use under circumstances exceeding specifications, abuse, unauthorized repair or alternation, lack of proper maintenance.

2.5 Any failures resulting from an accident, negligence (such as but not limited to removing or deleting system files & licensed software product files), misuse, circuit failure or any change, damage due to fire, water, thunder or lightning, power failure or fluctuation, disruption of communication lines or due to force majeure, or any reason foreign to the equipment.

2.6 Any specific services or procedures, asked for by Customer, related to verification of repaired equipment.

ARTICLE 3: OBLIGATIONS OF THE CUSTOMER

Customer hereby assumes the following obligations as partial consideration for BarcoView performance of its requirements under the warranty condition; failure by Customer to meet its obligations under this paragraph shall excuse BarcoView's performance hereunder:

3.1 Customer shall not expose BarcoView personnel to any unsafe working conditions.

3.2 Repairs to equipment under warranty resulting from improper maintenance or repair performed by the Customer, or its officers,

agents, employees, or representatives, shall be borne by the Customer at its additional cost and expense.

3.3 The customer is responsible for installing the BarcoView equipment in an environment for which it was intended. If there is an indication that the equipment was used - even temporary - outside its specifications, BarcoView is entitled not to perform warranty repairs and terminate the warranty agreement. Any actions that have been taken by BarcoView in this respect, may be invoiced to the Customer at normal pricing.

ARTICLE 4: MODIFICATIONS OR CHANGES TO THE EQUIPMENT

Customer may make additions to the equipment only with explicit written consent of BarcoView.

Any attempt to do so, voids the warranty.

ARTICLE 5: DISCLAIMER OF WARRANTIES

Barcoview disclaims all warranties, expressed or implied, including all implied warranties of merchantability and fitness for a particular purpose.

ARTICLE 6: LIMITATION OF LIABILITY

Barcoview shall not under any circumstances be liable to customer or any third party for direct, indirect, incidental, special or consequential damages, such as but not limited to, damage to or loss of tangible or intangible property or equipment, loss of profits or revenues, cost of capital, cost of purchase of replacement goods, or claims of customers of user for service interruptions. The liability of BarcoView for manufacturing, sale, delivery, resale, installation, operation or suitability for use of any products or services covered by or furnished under this warranty condition, whether arising out of contract, negligence, strict tort, warranty or otherwise, shall not exceed the price of the item or items of goods or services upon which such liability is based.

ARTICLE 7: FORCE MAJEURE

Either party shall be released from performance of its obligations under this agreement to the extent, and for so long as, the performance of

this agreement is impeded by reason of force majeure. For the purposes of this clause the expression “force majeure” means, but shall not be limited to, industrial dispute, fire, mobilization, requisition, embargo, currency transfer prohibitions, insurrection, lack of means of transport, restrictions of the use of energy, and generally any circumstances which are beyond the control of the parties and hinder performance by one party of his obligations.

ARTICLE 8: GENERAL

8.1 Customer acknowledges its understanding that all software and electronic devices, including BarcoView products are subject to possible error, mechanical or electrical failure, and should not be relied upon in inappropriate applications or without proper backup and/or other safety precautions whenever personal injury or property damage may result from failure or error of the product.

8.2 BarcoView shall not be responsible for machine failure and/or its failure to render service or maintenance due to causes beyond its reasonable control.

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